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"I cannot help plead to my countrymen, at every opportunity, to cherish all that is manly and noble in the military profession, because peace is enervating, and no man is wise enough to foretell when soldiers may be in demand again."
(GENERAL SHERMAN.)

BY AUTHORITY OF THE EXECUTIVE COUNCIL.

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THE ARMY AND THE EXPLORATION OF THE WEST.

By LIEUTENANT THOMAS W. SYMONS,

CORPS OF ENGINEERS U. S. A.

ONE hundred years ago the independence of the United States was acknowledged by the parent power, with which it had been battling for some years. If at that time an observer had stationed himself upon the highest summit of the Alleghanies, he would have been nearly in the centre of the new-born nation, whose domain then embraced all the present area of the country lying east of the Mississippi, with the exception of Florida and a strip along the Gulf coast. Looking about him from his elevated station, in the light of the geographical knowledge of the continent then possessed, he would have seen, to the east of the mountain chain upon which he stood, the long line of settlements bordering the Atlantic seaboard, and the advanced frontier settlements scattered here and there upon the watercourses draining the eastern mountain slopes. Turning his gaze to the westward, he would have seen three small areas containing a considerable population, one in West Virginia, one in Kentucky, and one in Tennessee; and besides these a few remote and scattered trading posts, chiefly about the great lakes and the northern tributaries of the Mississippi. Of the 3,000,000 white inhabitants, probably not more than 20,000 or 25,000 were living to the west of the mountain chain. The main geographical features of the original area of our country were quite well known at the time when it was fully admitted into the family of nations. Throughout the regions of the St. Lawrence, the great lakes, and the Ohio, and as far as the Mississippi, the love of science, and the spirit of adventure, proselytism, and gain, had led many men whose names will ever be enrolled among those of the world's great heroes. The explorations of De Soto, Marquette, Joliet, Hennepin, La Salle,

Le Sueur, La Houtan, and Champlain, early formed the framework of the map upon which was compiled the subsequent and more detailed information gathered by other travellers.

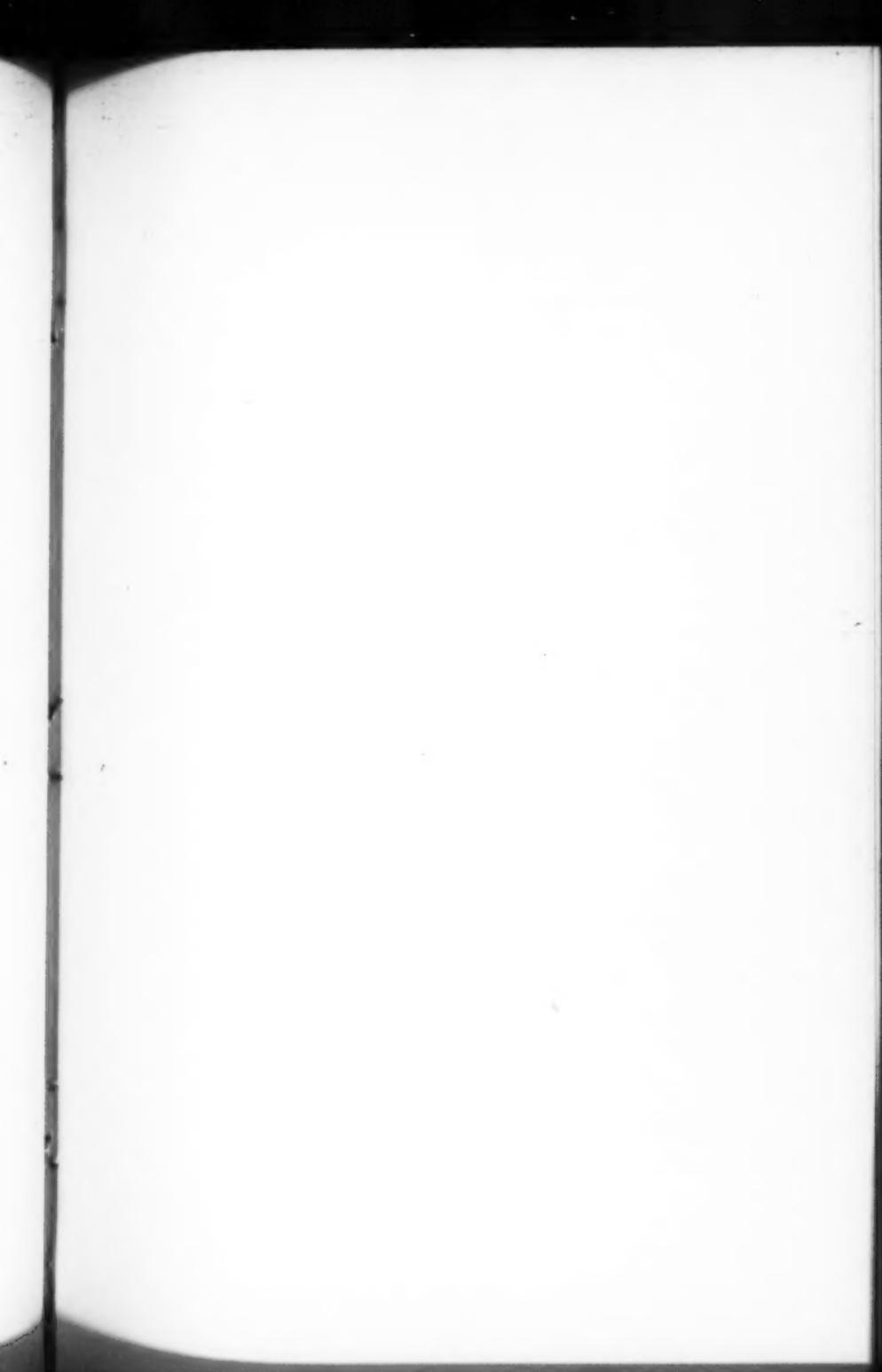
The various Indian wars in which the colonists were engaged, and the marchings and counter-marchings of the troops of England and France, helped largely to fill up the blank spaces on the map.

Over the regions west of the Alleghanies, the Indian still roamed at will, although the iron front of civilization was slowly and irresistibly moving to drive him into the distant, unknown region, beyond the Mississippi.

Our observer on the mountain top, looking into the dim distance beyond the "Father of Waters," would have seen this vast domain, claimed by France and Spain, stretching away to the Pacific. There were great rivers coming from out this dim and shadowy region, and the Indians told vague stories of boundless plains, and of gigantic mountains, and beyond them, of immense lakes and great rivers flowing toward the setting-sun and discharging their waters into the far-away Pacific Ocean. Upon the shores of a bay of this Pacific Ocean, the same year in which our forefathers were declaring their independence, some Spanish monks of San Francisco had established a mission, which, with the bay, they named after their patron saint. From these monks, and from the sailors along the Pacific main, a vague idea of the extreme West had been gathered and crude maps constructed.

The great river of the West, the Columbia, was as yet unknown, save to the savages who rode upon its waters in their dug-out canoes. The priests of the Catholic Church had penetrated into the sunny, arid regions now comprised in New Mexico, Arizona, and Southern California in the pursuance of their holy labors, and collected much information concerning the Southwest, rendering it the best-known portion of our present domain west of the Mississippi.

Our knowledge of the other countries to the west of the Mississippi at this time was derived very largely from the writings of Captain Jonathan Carver, a native of Connecticut, and an officer in the Provincial Army, who served with distinction during the French and English war which ended in 1763, narrowly escaping with his life from the dreadful massacre at Fort William Henry in 1757. After the close of this war, Captain Carver resigned from the army, and, actuated by a spirit of enterprise, a love of



Longitude West from London 145 140 135 130 125 120 115 110 105 100 95

The Suppos'd Eskim
Passage to the South



A
NEW MAP
of
NORTH
AMERICA.

From the
Latest Discoveries

— 1778 —

TANUS

British Statute Miles 69 to a Degree





novelty, and a desire to be of service to his country and the world, set out on his travels in the then far-west. He passed the years 1766-7-8 in the country about the head waters of the Mississippi and Minnesota, and about Lakes Superior and Michigan. Concerning the country through which he travelled he gathered positive information, and from the Indians among whom he lived and whose sincere friendship he won, he learned many things concerning the country still further west. It was he who first gave to the world the idea of a great river, the *Origan, Oregon*, or River of the West, his conception of which, derived from the crude representations of the Indians, he put upon the map of America with which his report is illustrated. As nothing can be more interesting to those attracted by geographical research, or to those who read merely to acquire general information, than the first maps of a country with which they are familiar, I give herewith, this map of Carver's. The map, poor and incomplete as it is, is believed to deserve especial commendation, as its author seems to have exercised unusual judgment in compiling it. From our present knowledge of the country, we can see that he probably had some good reason for every thing that appears on the map, and most of the legendary and hypothetical information which appears on contemporaneous maps, and which has since been disproved, finds no place on this. The other old map which accompanies this report, and which was published several years later, is one of an opposite type, its author having given full credence to all the unfounded stories and plausible theories brought to his notice.

It was the intention of Captain Carver to travel still further west, and even to cross the continent, but lack of means and continual disappointments in the delivery of trading goods for which he had bargained, compelled his abandonment, for the time, of this project. He went to England after his western travels were ended, and succeeded in getting partially reimbursed for his expenses. Here he made the acquaintance of a gentleman of liberal mind and generous, enterprising disposition, named Richard Whitworth, a member of the British Parliament, and with him planned an expedition to cross the North American continent. The plan of the enterprise was to enlist fifty or sixty men, and go by way of the great lakes to Lake Pepin, there establish a trading post and fort, and thence push on up the Minnesota and Missouri, cross the summit lands, discover the *Oregon*,

or *River of the West*, and sail down it to the Pacific Ocean, "where it is said to empty itself near the Straits of Annian." Here a settlement was to be established, and from here researches were to be carried on for the discovery of a northwest passage from the Pacific to the Atlantic, which at that time was thoroughly believed in. The grants and other requisites for this grand enterprise were nearly complete, when the growing troubles between Great Britain and her American colonies, resulting in our War of Independence, put a stop to it.

Captain Carver's life from this on was a series of reverses and failures, and he died in poverty January 31, 1780.

The accompanying map, taken from a French geographical atlas of the world, in the library of the War Department, shows the conception which existed in the minds of many geographers in regard to the western portion of our continent one hundred years ago. The whole map, from which this copy was made, embraced the eastern portion of the continent also, and on it the *Michinipi*, or *la Grande Eau*, is shown connecting with the Atlantic.

This map illustrates the fabulous voyage of Admiral Fonté, from the Pacific to the Atlantic waters, which was for more than a century fully believed in, even by eminent scientific men.

Admiral Fonté claimed to have passed through the *Straits of Annian*, *Lake Belle*, *River Parmentier*, *Lake de Fonté*, and *Straits of Ronquillo*, into the *Grande Eau*, where he found a trading ship from Boston which had come from the East. This was in 1641, and for many years sailors searched in vain for Fonté's transcontinental water-way.

It also illustrates the imaginary voyage of the Baron La Houtan up *La Rivière Longue*, showing this river and the great interior sea or lake, of which he speaks, with its six large cities and hundred towns, inhabited by a *peuple poli*. Those who have made the acquaintance of the aborigines of the Great Salt Lake country know how extremely inapplicable is this name as applied to them.

The Columbia is not shown, but, entering the ocean more than a hundred miles to the south of it, is shown a great river, *Belle Rivière*, rising far away near the source of the Mississippi. The map is interesting as showing the difficulties that early geographers had to labor under, in compiling maps of new territory. The vague accounts of sailors and travellers, often

AMÉRIQUE SEPTENTRIONALE

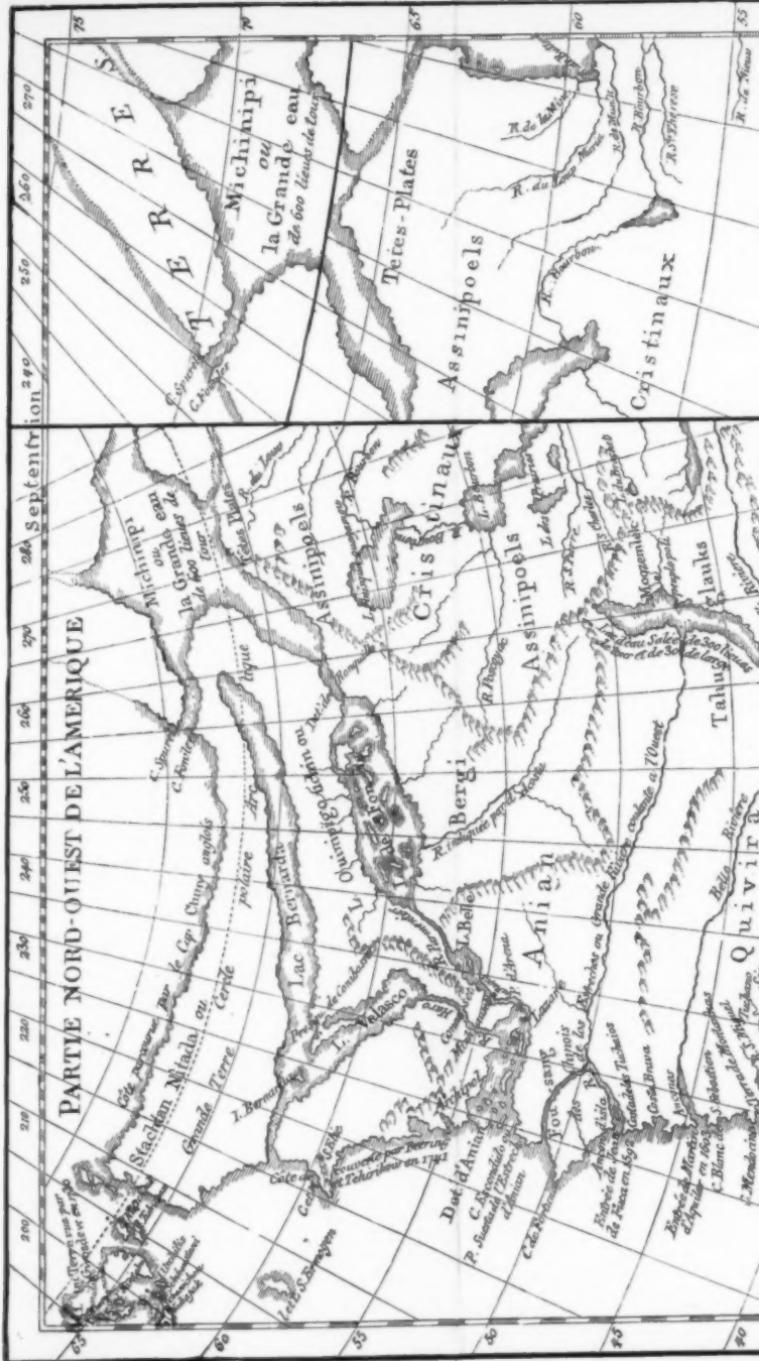
LES ÉTATS UNIS.

PUBLIÉE EN 1750 ET CORRIGÉE EN 1783

PAR LE S. ROBERT DE VAUGONDY, GÉOGRAPHE.

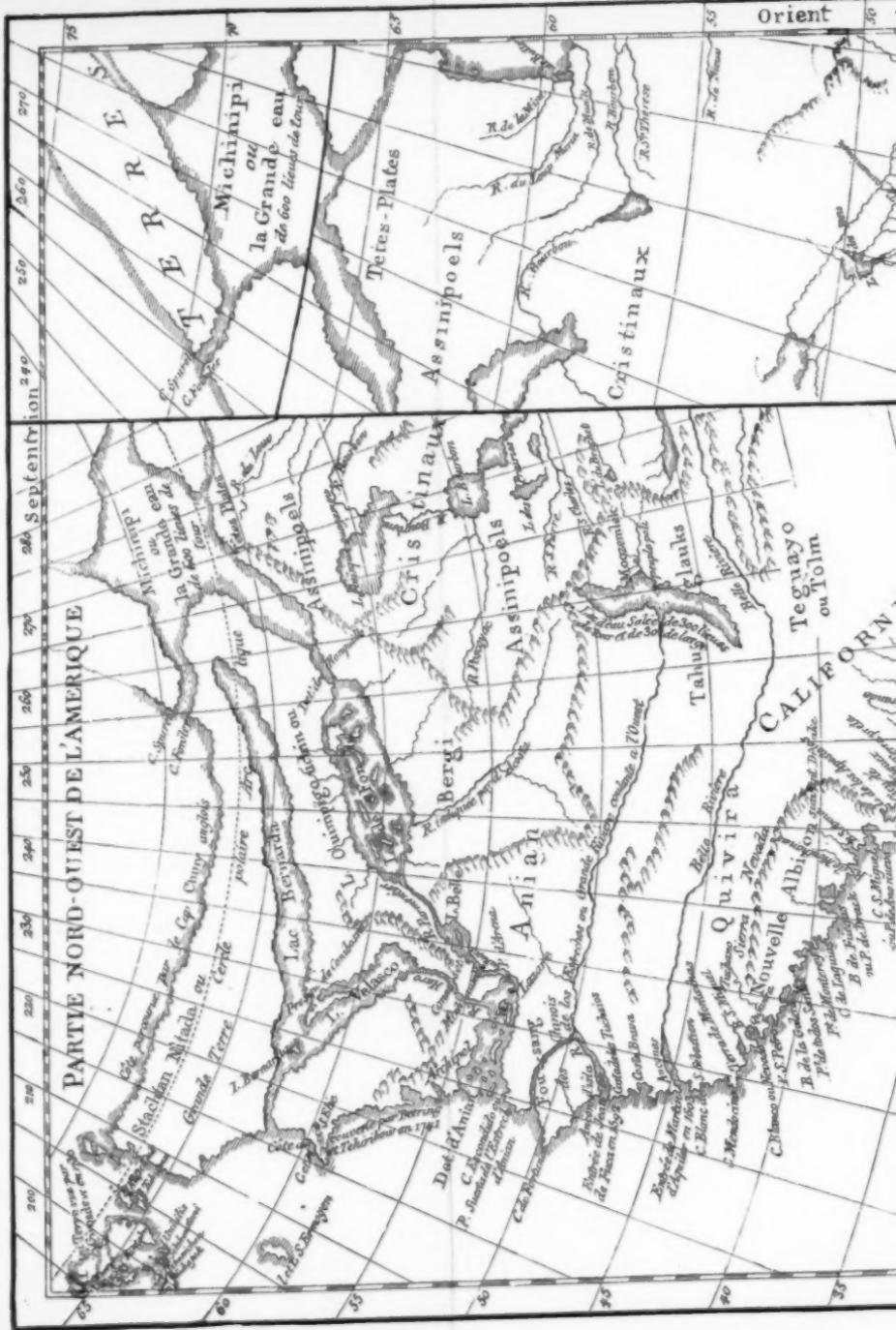
dressée sur les Relations les plus modernes des Voyageurs et Navigateurs on se remarquent.

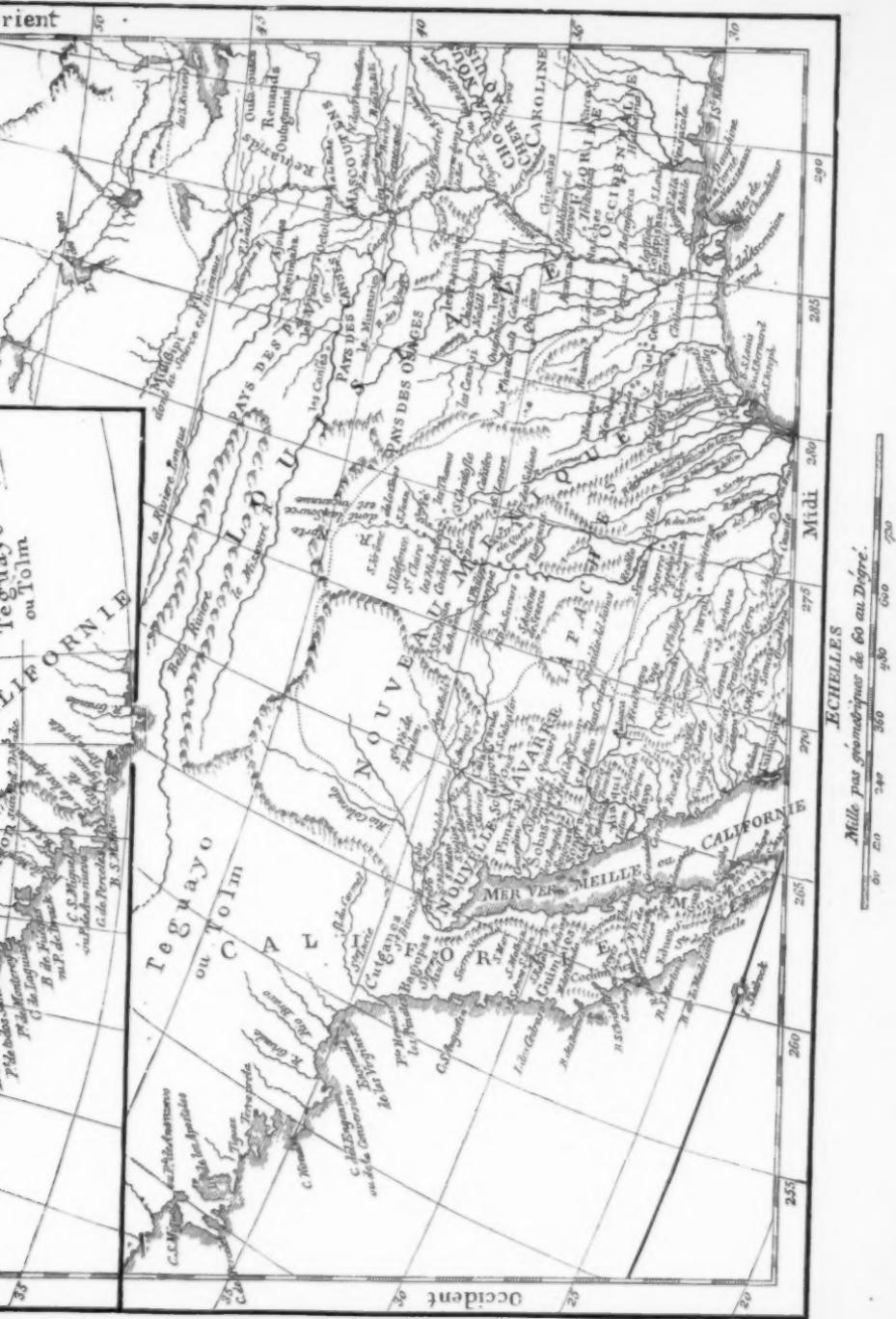
PARTIE NORD-OUEST DE L'AMÉRIQUE



PUBLIÉE EN 1750 ET CORRIGÉE EN 1783
PAR J. S. BOBERT DE VAUGONDY. GEOGRAPH.

PARTIE NORD-OUEST DE L'AMÉRIQUE





entirely false, were their only authorities, and the remaining space was filled up from imagination, or as they considered it ought to be.

A hundred years ago a map of this western territory which should only show what was absolutely known and proven would have been simply a blank.

TO-DAY the observer on his Alleghanian summit would see the nation grown from three million to fifty million inhabitants, and its area increased to more than four times what it was one hundred years ago.

His station, then in the centre of the country, is now upon its eastern border. The Indians have all disappeared from about him ; in every direction from lake and river he hears the puff of the steam-boat, and from the land the rumble of the railroad reaches his ear. The vast region west of the Mississippi is no longer an unknown land, but within it are the homes of millions of happy and prosperous people engaged in every imaginable pursuit.

Across the plains, mountains, and deserts, once unknown and dreadful, and where once painfully crossed thousands of emigrants with their slow ox-trains, now flies along its iron road, the railway train. The hordes of mounted savages who once roamed over this wide territory, carrying with them death and terror, have now been almost entirely subjugated, and those that remain are rapidly becoming educated and civilized. An enormous amount of geographical knowledge concerning the Great West has been gathered, and the best maps at present published show all important features of the country ; the position and trend of all the mountain chains and isolated peaks are laid down ; all important lakes and watercourses are accurately known and mapped, with the exception of some few in very rough and out-of-the-way regions.

The natural and artificial boundaries of States, territories, counties, townships, etc., are exhibited, and their latitudes and longitudes determined. It is unnecessary to further describe, in this connection, the maps of the Great West. Considering the difficulty, danger, and hardship experienced in gathering the material of which they are compiled, they must be considered as wonderfully creditable to those who have had a part in replacing by them the erroneous and hypothetical maps of a hundred years ago.

In this grand transformation scene, this shifting of a hundred years, whereby the forests, plains, and even the deserts and mountains, have become the homes of thousands of free and Christian people from every clime and country, the part which the Army of the United States has taken has been of the greatest importance. Always stationed on the extreme frontier, it has been ever on the move and ever gathering information of the country beyond and about it. Pressed onward by the advancing and increasing population, it has penetrated farther and farther into the Indian country, and established posts which formed the nuclei about which congregated the adventurous and progressive settlers. In defence of these settlers, the Army has maintained almost perpetual war with the Indians. By its blood and suffering, bravery and endurance under Scott, Taylor, Kearney, Fremont, and Doniphan, the Army purchased and gave to the country the magnificent acreage of Texas and the broad, sunny lands embraced within the two Mexican cessions, wherein lay hidden those vast treasures of gold and silver, which were soon to become the cynosure of every eye. The Army has found the way for, and has guarded, guided, and given aid of every description to, the long lines of emigrants who have wound their way across the land to the golden occidental shores, and by its presence and tireless activity it enabled to be kept up the constant communication by swift stage and pony express between the searchers for gold and their anxious Eastern friends. And when it became necessary to replace the stage and pony-rider by the railway and telegraph, the Army furnished its effectual aid in finding and locating the paths to be pursued by the iron horse, and in guarding those engaged in its final detailed location and construction. Without the Army, without a trained body of men, fearless and self-sacrificing, living ever in anxiety, discomfort, and danger; ever ready, like the wandering knights of old, to give and take blows with the crafty and merciless savages about them; ever ready, in summer's heat or winter's cold to start upon a scout after marauders, to secure some captive, or to relieve beleaguered emigrants, the settlements of the West could scarcely have been made. Without the Army, it would have been a matter of hundreds instead of tens of years.

But it is not of this almost hundred years of war, this story more replete with thrilling interest and glorious deeds than the

annals of the Round Table, that I am to consider. It is my aim in these pages to recall the part taken by the Army in collecting geographical knowledge in the Great West. The explorations and examinations there were begun by the Army and are being continued to this day. The special expeditions first sent out collected the general information from which the framework of the maps of the West were constructed. This framework was continually being strengthened by subsequent expeditions, and to it was added little by little the knowledge of the country gained by scouting parties which moved in every direction over the land. The Army Regulations have always required itineraries to be kept of the routes passed over by marching bodies of troops, and the thousands of these itineraries that have been made cover nearly every mile of the West. Often very rough and incomplete, and without any great pretension to accuracy, they were yet of undoubted value, and were compiled and recompiled and adjusted.

The desirability and necessity of having good topographical maps of a country have been recognized in all the later ages of mankind. Every intelligent person delights in the possession of a good map of the part of the country in which he lives or in which he may be travelling; it seems to guide him and to give him a more complete idea of the country than he could get in any other way. The uses of good maps in times of peace are, generally speaking, for the *division of land*, to form the basis for titles, and for purposes of taxation; and for *engineering purposes* in the improvement of rivers, the location of railroads, canals, common roads, etc. Each of these uses require special surveys and special maps; the first, simple and inexpensive; the second, expensive and of the greatest accuracy.

Special and accurate geological surveys and maps of particular areas have great practical value in the economical relations of mankind, while geological surveys or rather reconnaissances extended over vast areas have little practical value except in assisting in the solution of the great geological problems and in laying the foundations for more detailed and practical work.

It is, however, in times of war that the need of good topographical maps is most clearly felt, and that familiarity with topographical methods and studies is of the highest value.

To no body of men, to no profession, is a knowledge of the topography of a country of so much value, of such vital importance, as it is to the military.

To the Army is entrusted the protection and defence of the country, and to properly guard and defend it, it should be studied and known with the greatest exactitude.

The officers of the Army who have control of the troops, and who most need the geographical knowledge, should make the requisite surveys, and thus while gathering the information required for all who come after them, they would be improving themselves for their important duties of command more effectually than they could do by any other means. When on the second day of Gettysburg, the keen eye of Warren detected the supreme importance of Little Round Top, and rushed the first available troops that he could find to occupy it, he was but making a legitimate use of the knowledge of topography which he had gained upon the mountains and plains of the West.

This one instant of Warren's life was probably worth more to the country than all that the surveys of the Great West have ever cost. Indeed, it requires no stretch of the imagination to believe that upon it depended the fate of Gettysburg and of the Union.

To those who took leading parts in the Mexican War and in the War of the Rebellion, the invaluable services of those officers skilled in topographical studies, need only to be alluded to to be fully recognized.

The increased range and accuracy of small arms and artillery are making the accidents of the ground of more and more importance on the battle-field, which ever increases in size with the improvement of weapons, and, all other things being equal, that officer is the best, who best knows how to take advantage of the topographical accidents of the field of conflict.

The War Department should be the custodian of all the topographical knowledge obtainable, not only of our own, but of all other countries, in order that it may be directly available in case of need, without going to any other department for it.

Good topographical maps are essential in planning a campaign, and of the utmost value in moving our own troops and supplies, and in showing precisely all the routes over which those of the enemy can by any possibility be moved; they enable strong strategical points to be selected, and weak and unimportant ones to be avoided, and in a thousand other ways add to the efficiency of an army.

The value of topography to military men has been recognized in all the later ages, and in all military schools special importance

is given to instruction in it. Nearly all the nations of the world have entrusted their geographical surveys to their military men, for the reasons that these men are specially trained for the work ; that they feel the absolute and vital importance of it in their business of war ; and because their strictly military education fits them particularly for commanding and controlling men, for combating and overcoming the dangers of the wilderness, or for organizing and controlling the operations of a great extended and detailed survey of a country. It is only necessary to cite Great Britain, Germany, Austria, France, Russia, Belgium, Italy, Spain, Switzerland, Sweden, Norway, Denmark, India, Portugal, and Egypt. This was the case in our own country until a few years ago ; we were on the highroad to the procurement of accurate and detailed topographical maps of the Great West, when Congress in its wisdom saw fit to neglect the teachings of the world, and transfer the continuation of the work to another department of the government.

It was for the same reasons above given, that, in the early explorations of the Great West, army officers were nearly always selected to conduct them, and I now come to consider the work of some of these great explorers.

In the year 1803, the French ceded to the United States the province of Louisiana, containing 1,171,931 square miles, and embracing all the portion of the United States now lying to the west of the Mississippi, except that in the Southwest, since ceded by Spain. Immediately upon obtaining possession of this enormous territory, inhabited only by savage men and beasts, the government conceived a strong desire to acquire knowledge concerning it,—its inhabitants, resources, geographical features, etc., with the ultimate object of colonization and commerce. The great rivers, as possible future highways of commerce, were the first to demand attention, and, in consequence, we see a number of expeditions fitted out to explore them. The first of these was the expedition under the command of Captains Lewis and Clarke, of the Army, which started in 1804, with instructions to explore the Missouri to its source, to proceed thence across the highlands to the first navigable water on the western side, which they were to follow to the Pacific Ocean. In obedience to these instructions they organized their party, and on May 14, 1804, they left their rendezvous camp, at the mouth of the Missouri, and started on their tedious and eventful journey. Their sup-

plies and themselves were transported in boats, which were sailed, rowed, poled, or cordelled up the Missouri for 2,500 miles, to the Great Falls of this river. The winter of 1804-5 was passed among the Mandans, near the present location of the city of Bismarck.

Thus far, they had journeyed through the various tribes of Indians inhabiting the country bordering the Missouri, and in their journal, the travellers describe the principal characteristics of these Indians in a most graphic manner. In their intercourse with the savages they endeavored to inculcate in them a desire for peace with their neighbors, and, to propitiate them, gave them presents, and to the chiefs gold-laced uniforms, medals, and certificates from their new ruler,—the President of the United States. The queer things carried by the travellers were eagerly scrutinized and regarded with wonder by the savages, particularly an air-gun, which they could not understand. The climax of their astonishment was reached, however, on seeing Captain Clarke's servant York, a remarkably stout, strong, jet-black negro. They had never seen a person of this color before, and flocked about him to examine what was to them an extraordinary monster, and some endeavored to wash the black off, evidently believing that he had been painted.

For amusement the Indians were told that he had once been a wild animal, and had been caught and tamed by his master, and as proof he performed various prodigious feats of strength, all of which, added to his looks, made him an object of great terror.

The winter passed among the Mandans was rendered agreeable by the harmony which existed between all parties, and profitable by the studies of these people which the travellers were enabled to make, and the knowledge of the country which they were enabled to gain. A blacksmith, who was a member of the party, interested the Indians very much by the magic of his art, and rendered himself extremely valuable by making and repairing things for them, which were paid for with grain and meat, dressed robes and skins. The winter at last ended and the party again set out on their journey, on the 7th of April, 1805, travelling as before in boats up the Missouri.

By one of those freaks of good fortune which ever seem to have favored this expedition, one of their French voyageurs and interpreters had married a Snake squaw, who had been captured

by the Minnetarees and sold to her husband. Saca-jawca, such was her name, accompanied the party on nearly all its wanderings, and was of the greatest service when it arrived among the Snakes, in gaining for it the confidence of these Indians, and enabling horses and guides to be procured, and a knowledge of the country in advance to be gleaned from her people.

As they proceeded up the river they found game in the greatest abundance, buffalo, antelope, bighorns, bear, etc. On the 3d of June the party found itself in a quandary; having arrived at the junction of two large rivers, the true Missouri and Maria's River, they were at a loss which to take. The Indians had told them that upon the true Missouri, which approaches near the head waters of the Columbia, there were some great waterfalls, and this was to be the sign that they were on the right river. A mistake in choosing the proper river would involve the loss of so much time, that it might prevent their crossing the mountains to the Columbia that season, and imperil the fate of the expedition. But their good fortune did not forsake them, and they chose the right river and soon reached the Great Falls. Captain Lewis, being in advance, one day heard a low rumbling noise, and going toward it with all speed, after seven miles had been passed he reached the falls. Sending back for Captain Clarke and the main party, Captain Lewis proceeded to examine the portion of the river about the Great Falls, which contains other falls, cascades, and rapids in great profusion and of wondrous beauty.

The description of the falls, as given by these travellers, will always be of the greatest interest, not only on account of its being the first ever given, but because of its accuracy, thus enabling changes to be noted in after-years, and because of the vivid picture it gives of the abundance of animal life in the region.

The first day's adventures of Captain Lewis while examining the river will illustrate this abundance. Walking alone in this wild region, over a small plain near the river, he came on a herd of at least a thousand buffalo, and, to procure meat for supper, he shot one. Watching intently to see the bleeding animal fall, the captain forgot to reload his rifle, which he regretted when he observed a large brown bear which had crept unperceived to within twenty paces of him. Upon the open plain there was no tree to climb or place of concealment. He thought if he

walked quickly away and left the buffalo the bear might not follow him, but, as soon as he turned, bruin rushed open-mouthed at full speed after him. There was nothing to do but to run for the river, in which he soon plunged waist deep, and, facing about, confronted the bear, which, on arriving at the water's edge and seeing the change in the aspect of things, wheeled about and retreated as hastily as he had advanced. Soon after, while going through some low grounds, he encountered a mountain lion, which he fired at but did not kill. He then went on, "but," in the language of the journal, "as if the beasts of the forest had conspired against him, three buffalo bulls, which were feeding with a large herd at a distance of half a mile, left their companions and ran at full speed toward him. He turned round, and, unwilling to give up the field, advanced to meet them; when they were within a hundred yards they stopped, looked at him for some time, and retreated as they came." He now pursued his route in the dark, reflecting on the strange adventures and sights of the day, which crowded on his mind so rapidly that he should have been inclined to believe it all enchantment if the thorns of the prickly pear pricking his feet had not dispelled at every moment the illusion. Reaching his anxious friends in safety, but much fatigued, he slept well, and on awaking in the morning found, coiled at the roots of the tree under which he had been sleeping, a large rattlesnake.

In making the extremely laborsome portage of seventeen miles about the falls, the party was much annoyed by the great numbers of bears, which, on account of their fierceness, rendered it unsafe for any man to travel alone. The number of bears met with was almost incredible, and is accounted for in the journal of the travellers by the fact that the great herds of buffalo in going to the river to drink frequently crowd some of their number into water beyond their depth, when they are carried over the falls and killed, and on their carcases the bears live. Great numbers of buffalo were killed in this manner.

Proceeding up the river, the party soon came to three forks, which they named the Jefferson, Madison, and Gallatin; and here they began their preparations for the first crossing ever made of the Great Divide by white men.

In order to accomplish this, it was necessary to have horses, and so Captain Lewis hastened on ahead to find the Shoshones or Snakes to procure them, while Captain Clarke remained behind to bring the main party and supplies in boats up the Jefferson.

The Indians were found at last, and horses procured after a long time spent in bargaining, and the party started out and soon reached the headwaters of what is now the Salmon River. Deterred by the accounts of the Indians and the swift waters and tremendous cañon of this river from attempting its descent, they kept on to the north and crossed the divide to the headwaters of what is now the Bitter Root branch of Clarke's Fork of the Columbia. Leaving this branch, they now struck to the west and crossed the Bitter Root Mountains, and at last reached the Koos Koos Kee, or Clearwater, and the land of the Nez Percés, and their toilsome land journey was over. During this journey the party suffered greatly from cold, fatigue, and hunger, the scarcity of game compelling them at last to kill and eat their horses. Upon the Clearwater they made canoes, and abandoning their horses to the care of the Nez Percés, whose friendship they had gained, they sailed away down the Columbia River to the Pacific Ocean,—“that ocean, the object of all our labors, the reward of all our anxieties. This animating sight exhilarated the spirits of all the party, who were still more delighted on hearing the distant roar of the breakers.” The winter was passed by the party near the mouth of the Columbia. The narrative of the expedition gives a complete account of the Indians of the Lower Columbia, their modes of life, etc. It tells of the straits to which the party was put for want of food and the troubles with the Indians, and how as soon as possible in the spring they left their rainy and comfortless camp and set out on their homeward journey. Going up the river, they experienced great annoyance at the hands of the Indians along its banks, particularly at the Cascades and Dalles, all of which made their joy greater when they arrived among the honorable Nez Percés, who delivered over to them the horses left in their care the preceding autumn. After infinite toil and trouble they succeeded in reaching the Bitter Root River, and here they separated, Captain Lewis going up the Hell Gate and Blackfoot Fork, and crossing the divide between the Columbia and Missouri by Lewis and Clarke's Pass. He then went north to the sources of Maria's River, which he followed down to the Missouri, and proceeded on down this latter river until he overtook Captain Clarke. Captain Clarke followed up the Bitter Root and crossed to the Jefferson, down which he went to the forks, and then crossed over to the Yellowstone. On this he constructed boats and

sailed down it and the Missouri, and being joined by Captain Lewis, the two parties returned to the regions of civilization.

Their return journey was full of incident, and was rendered more difficult by the giving out of their trading supplies, upon which they depended to get horses and food from the Indians. In this emergency they adopted a new profession—that of the physician, and by dosing the sick and operating on the wounded and maimed, they were enabled to supply themselves and successfully prosecute their journey.

The expedition was provided with compasses, sextants, artificial horizons, and chronometers, and the officers made careful and laborious surveys of the whole route passed over, and from their intercourse with the Indians, obtained a great deal of reliable information concerning the country which they did not visit, all of which was carefully compiled upon a map—the first ever made of the vast northern portions of the Great West.

The tests to which the map of this exploration has been subjected, prove it to have been carefully made, and of great accuracy considering the means and circumstances of the party.

This was the first time that men had ever crossed this continent from ocean to ocean within the present territory of the United States, and it was the first time that any portion of the Columbia, or any of its tributaries east of the Cascade Mountains, had been looked upon by white men.

The magnitude and importance of this journey, the tremendous labor and hardship experienced by all engaged in its prosecution, can only be appreciated by those who read the accounts of the journey and are familiar with the country passed over by them. Throughout the whole of their long and hazardous route, the officers evinced the most admirable address, discretion, perseverance, and intrepidity, proving themselves well qualified for the important trust which had been committed to their charge.

While Captains Lewis and Clarke were thus exploring the Missouri and Columbia rivers, Lieutenant Zebulon M. Pike¹ was sent to explore the Mississippi River, from its junction with the Missouri to its sources. He left St. Louis, in August, 1805, with twenty men and provisions for four months. His expedition did not return, however, for nearly ten months, during which the members of it suffered greatly from cold, hunger, and exposure.

¹ Afterward Brigadier-General Pike, who, during the War of 1812, commanded the American forces in the expedition against York, the capital of upper Canada. He was killed in action during this campaign by a stone thrown from a mine.

Immediately upon his return from this expedition, Lieutenant Pike was sent to make an examination of the country drained by the other great western rivers tributary to the Missouri and Mississippi.

In this duty he was assisted by Lieutenant J. B. Wilkinson, of the Army, and Dr. J. H. Robinson.

They visited and examined the Osage River, and the Smoky Hill, Grand Saline, Solomon, and Republican forks of the Kansas, and then moving south, they reached the Arkansas, the lower portion of which was examined by a detachment under Lieutenant Wilkinson, while Lieutenant Pike moved westward toward the mountains to examine its sources.

In the course of his journeying Lieut. Pike attempted, in the latter part of November, 1807, to ascend the magnificent mountain which now bears his name. But it was too late in the season, the snow had commenced to fall, and he was unable to do it.

He also, in the course of his explorations, crossed the divide at the headwaters of the Arkansas and came upon the headwaters of the Grand River, one of the large forks which with the Green make up the Colorado of the West. To Lieut. Pike belongs the honor of being the first American explorer to reach the sources of this great river, although at the time he did not know it, and his party was the second to cross the divide between the Atlantic and Pacific.

Searching for the sources of the Red River, Lieut. Pike turned southward and came upon the Arkansas, where he had expected to find waters of the former river. He was greatly perplexed and worried on account of the lateness of the season and his unfulfilled task. The party was in the very heart of the Rocky Mountains in the depth of winter and totally unprepared for it, many being without blankets or socks, and with only such miserable shoes as they could make from wet, raw buffalo hide; often-times they came near starving, but still, though ignorant as to where he should look, their leader with the most indomitable courage and perseverance kept on to the southward, and finally crossed the "Great White Mountain" (Sierra Blanca), and came upon a large stream flowing south, which he supposed was the long-sought Red River. In his dreadful march to this place some of his men had been so badly frozen and otherwise used up that a party was left behind and were now sent for and brought up.

Lieut. Pike, in his miserable winter-quarters, was soon made more miserable by the arrival of some Spanish officers, who informed him that, instead of being on the Red River, he was on the River Grande del Norte, and a trespasser on foreign soil. He was conducted a prisoner before the Mexican Provincial Governor at Santa Fe, who took possession of most of his notes and then politely escorted him through Texas to the Red River, at that time the proposed boundary between the United States and the Spanish possessions. Lieut. Pike still retained enough notes and copies of courses and distances to make a creditable map of the region traversed, although he was prevented by the action of the Spanish authorities from exploring the Red River, a knowledge of which was particularly desired by our government on account of its international character.

In its lower portion it had already been explored by Captain Sparks whose examinations were also cut short by the Spanish authorities.

These expeditions of Lewis and Clarke and Pike made known, in a general way, the characteristics and general features of the country between the Rocky Mountains and the Mississippi, and that drained by the Columbia, Rio Grande, and, to a slight extent, that drained by the Colorado of the west.

The general position of the great Rocky Mountain chain was determined, as well as the courses of the rivers. The character of the inhabitants and the resources of the country were revealed, all of which enabled future expeditions to set out more intelligently, and do their work more satisfactorily.

The complications with Great Britain resulting in the War of 1812, in which the country now found itself, prevented any organized exploring expedition being sent out until after the close of that war.

After this war was ended and the excitement consequent thereon allayed, the attention of the Government was again directed to the need of more positive information regarding the Great West, and an expedition was fitted out for the exploration of the Rocky Mountains and rivers flowing therefrom to the eastward.

The command of the expedition was given to Major Stephen H. Long¹ of the Topographical Engineers, who was assisted by

¹ Afterward Colonel S. H. Long. T. E., retired in 1863. Colonel Long was the inventor of Long's truss, and during his life was largely engaged in railroad engineering. His "Railroad Manual," published in 1839, was the first original treatise of the kind in the country.

Major Biddle, Captain John R. Bell, Lieutenant J. D. Graham, and Cadet W. H. Swift of the Army, and a corps of civilians, among whom were Drs. Say and James, and Messrs. Peale and Seymour.

The party started in 1819 from Pittsburg and travelled in a small steamer down the Ohio, and up the Mississippi to Council Bluffs near the mouth of the Platte. On their way up, a party under Dr. Say was detached to explore the country between the Kansas and the Platte, and then to descend the latter river to its mouth.

A few days out, however, the Pawnees put a veto on their further operations by stealing their horses and baggage, after which they made their way back to the Missouri, and up this river to the main camp at Council Bluffs. Major Long ascended the Minnesota to its source in Big Stone Lake, and passed to Lake Tranerse, the source of the Bois de Sioux, a tributary of the Red River of the north, over a low divide which at high water he says is sometimes submerged so that the two lakes unite. General G. K. Warren, U. S. Engineers, has since made elaborate surveys of this Minnesota River, and shown conclusively that at one time it was the principal stream of the Mississippi, draining into it all the vast country in which are Lakes Winnepeg, Winnepegosis, and Manitoba, and through which now run the Assiniboine, Sas Katchewan, and Winnepeg rivers and their numerous tributaries, all the waters of which now find their way to Hudson's Bay.

The deductions of General Warren in regard to the geological history of this great section are of the utmost value and interest, and are given fully in his very valuable work on "Bridging the Mississippi River."

The party of Major Long wintered near the Council Bluffs, and in the early summer of 1820 started out, going up the Loup Fork, and thence crossing again to the Platte, followed up it and its South Fork to its débouchure from the Rocky Mountains. Here they turned to the south and examined the mountains between the South Platte and the Arkansas, in the course of which examination Dr. James made the ascent of the magnificent mountain described by Lieut. Pike, and which now bears his name. Major Long called it James' Peak, as Dr. James was the first man, civilized or savage, to ever reach its summit, but Fremont afterward found it generally known among the trappers as

Pike's Peak, and so called it. Gold having been discovered near this peak in 1858, Pike's Peak became for a time the popular name of the Rocky Mountain gold region within the present limits of Colorado. Its accessibility and easy ascent, the establishment of a permanent signal station on its summit, and the fact that from its summit one of the grandest views in the world can be had, have rendered this the most noted mountain peak on the American continent. It is, however, far surpassed in beauty and grandeur by many mountains, among which may be named Mounts Shasta, Hood, Ranier, Cerro Blanco, and the Grand Teton.

Arrived at the Arkansas, the party explored this river to the tremendous gorge through which it issues from the mountain. Here the party divided, Major Bell with a detachment following down the Arkansas, while Major Long moved to the south, intending to strike the sources of the Red River and explore it to its mouth. Coming to a large river which he supposed from his information must be the Red, he followed it down, but much to his chagrin found it to be the Canadian, when he came to the point where it blends its waters with those of the Arkansas. It was then too late to retrace his steps.

His expedition was well provided with assistants and instruments, and was, on the whole, better equipped for work than any which had preceded it, and brought back very valuable geographical information, and was of great importance on account of its determining accurately the latitude and longitude of many places. Major Long conducted a second expedition in 1823, for the exploration of the St. Peter's or Minnesota River, and the country between it and the great lakes.

On his way from Philadelphia to the rendezvous at Fort Snelling, Major Long, after travelling through the wilderness between Columbus and Chicago, came to the latter place which, it may be interesting to note, he found to consist of a "few miserable huts inhabited by a miserable race of men." Major Long continued his examinations into the country lying between Lake Winnipeg and Lake Superior, and followed the northern shore of this latter lake to the Sante St. Marie, where his work ended.

For the next six years there does not seem to have been any particular interest taken in extended surveys by the Army, although, doubtless, as at all other times, valuable information was being collected by scouting parties and military expeditions.

In 1832, Lieutenant J. Allen, United States Army, made an







exploration of the country about the headwaters of the Mississippi, and from his very carefully taken notes was constructed the first topographical and hydrographical delineation of the source of this river. In this work Lieutenant Allen travelled by canoe and portage about 2,000 miles. He worked in conjunction with Mr. Henry R. Schoolcraft, who had visited the country before, and whose writings concerning the country and people of the great lakes and Upper Mississippi are well known and very valuable.

We have now passed over the first fifty of the hundred years under consideration, and yet our knowledge of the Great West is almost entirely stopped at the Rocky Mountains. Well to the north Lewis and Clark had indeed penetrated beyond them, even to the confines of the limiting ocean; the wandering priests of Mexico had also made their way from the south, for considerable distances into this transmontane region; and the footsteps of a few hardy trappers and fur-traders had led to and about the headwaters of the Snake and Columbia, and had taken even them to the dreary shores of the Great Salt Lake. But this was all. The vast region lying between the Rocky Mountains and the Pacific Ocean, south of the Columbian Valley, was, and had been, a region of mythical lakes and rivers, noble cities, etc. The vague and uncertain accounts of the adventurous priests, and the imaginative but long-believed voyage of La Houtan up the *Rivière Longue*, and the strange tales told by his Mozeemlek slaves of a great lake far to the westward, a thousand miles around, about which were many large cities and hundreds of towns, inhabited by a polished people who sailed upon the bosom of their lake, all combined to render this great unknown region one of interest and romance. Geographers taxed their ingenuity in supplying it with rivers draining to the sea, and it seems never to have occurred to them that it was a great inland basin, without outlet.

The accompanying map, taken from Warren's "Memoir on the Map of the Territory of the United States," shows how little was really known concerning it as late as 1826, when the map was first published. General Warren says of it:

"I give herewith a reduced copy of a portion of this map, which purports to include all the recent geographical discoveries up to that date (1826). On this we see Rio los Mongos and Rio Timpanagos flowing from Lake Timpanagos to the Pacific, and the Rio Buenaventura flowing from Lake Salado to the Pacific.

At what time and for what reasons these rivers gained a place on the maps of that period, I am not acquainted.

"The Multnomah (Willamette) is still represented as heading east of the Cascade range. This map shows that no advancement had been made in accurate knowledge of the regions west of the Rocky Mountains since the explorations of Lewis and Clarke."

Captain B. S. E. Bonneville, of the Army, while stationed in the West, conceived a great desire to explore this mythical region. Accordingly, he obtained a leave of absence, and in 1832 commenced his work, with the double end in view of exploration and prosecution of the fur trade. He established his rendezvous camp on the headwaters of Green River, in the very heart of the Rocky Mountains, and from here his parties started. One, under charge of Mr. Walker, was to explore the Great Salt Lake. They endeavored to go around the lake to the west, but the horrors of the desert forced them to abandon their design, upon which they struck to the northwest, and came upon what is now known as Humboldt River. They followed this down to where it sinks into the desert, and continuing westward, after suffering very much from hunger and thirst, they crossed the Sierra Nevadas, and reached the Sacramento and the Mission of Monterey.

Returning, the party skirted the Sierra Nevadas to the south, and crossed the arid plains of Nevada, and finally reached the rendezvous, after having travelled quite around the Great Basin System. While this exploration was in progress, Captain Bonneville examined the country in the vicinity of the Wind River Mountains, and about the headwaters of the Yellowstone and Green rivers. He then crossed the mountains to the Bear River Valley, and the Port Neuf branch of the Snake River.

During the winter of 1833-4, he went from his camp on the Port Neuf to old Fort Walla Walla, on the Columbia River, going by way of the Snake River Valley, the Grand Rond, and over the Blue Mountains. He returned to his camp in the Port Neuf in the spring, and after repeating his journey to the Columbia, returned to the East by way of the Platte River.

From this we see that Captain Bonneville was the pioneer over the Grand Rond emigrant road to Oregon, and Mr. Walker, his aid, was the pioneer over the Humboldt Valley emigrant road

to California, as well as over the Santa Fé trail to California.

The maps of Captain Bonneville are the first to represent correctly the hydrography of the region west of the Rocky Mountains.

He was the first to determine the existence of the great interior basins without outlets to the ocean, of the Great Salt Lake, of the Humboldt River, of the Sevier River and lakes, of the great mud lakes, and to prove the non-existence of the Buenaventura, Timpanagos, and other hypothetical rivers. He reduced upon the map the Willamette to its true length, and determined the general extent and direction of the San Joaquin and Sacramento. His map of the country about the headwaters of the Yellowstone was, for more than twenty years, the best map of the region extant.

Lieutenant E. Steen, 1st Dragoons, in 1835 compiled a map of the country lying between the 31st and 45th parallels of latitude, and along the eastern slope of the Rockies and the adjacent plains.

This map represents in particular the routes passed over by the troops under Colonel Manney in 1833, and Colonel Dodge in 1834.

This latter expedition into the country between the Red and Canadian rivers was remarkable for its disastrous effects upon those engaged in it, very many dying from fevers and other diseases produced by the summer heat, malaria, and bad water.

Colonel Dodge made many extensive scouts through the western country, largely adding to the knowledge thereof.

Captain Washington Hood, of the Topographical Engineers, compiled in 1838 a map of the Oregon Territory, and in 1839, while stationed on the Missouri frontier, he compiled a map of the mountain region lying about the headwaters of the Missouri, Columbia, Yellowstone, Snake and Colorado rivers.

In 1840, the survey of the boundary between the old Louisiana Territory and the Mexican State of Texas was made by the following-named officers of the Corps of Topographical Engineers: Lieut.-Colonel James Kearny, Major J. D. Graham, and Lieutenants Blake, Sitgreaves, Lee, and Meade. Twenty-three years later, these two last-mentioned officers were destined to find themselves in command of hostile armies, and to contest

the hardest fought and most decisive battle of the War of the Rebellion.

Among the officers who about this time made reconnaissance surveys of large portions of unknown country was Captain N. Boone of the Dragoons, who in 1843 traversed and mapped the region between the Canadian and Arkansas rivers.

The Des Moines River was examined and reported on by Captain Allen, and Lieutenants Calhoun, Noble, and Potter.

We now come to an epoch in the history of western surveys rendered important by the labors of Fremont and the other officers engaged in the military movements in the West consequent upon the Mexican War. The prominent position taken by Fremont before the eyes of the nation on account of his career in California during and subsequent to this war, and his candidacy for President in 1856, have made his labors in the exploration of the West more widely and popularly known than those of any other explorer.

On account of his skill in mathematics and ability as a surveyor, developed in the survey of the Cherokee country, he was commissioned in the Topographical Engineers in 1838. In 1842 he set out on his first expedition, going up the Kansas River and crossing to the Platte, up which he went to the forks. Here he divided his party, and surveys of both forks were made, and the party re-united at Fort Laramie. He then kept on up the north fork of the Platte to its source in the South Pass, and after an examination of the Wind River Mountains, during which he ascended Fremont's Peak, the highest of the range, he returned to civilization by way of the North Platte. Careful surveys were made of the country passed over, and very valuable astronomical and barometrical determinations of position and altitude made.

The second, and most noted, expedition of Lieutenant Fremont, left Kansas City, in May, 1843. It was well provided with instruments for the determination of latitude, longitude, and altitude. The baggage of the party was carried in carts, and all were well mounted. While the carts were making their slow way to St. Vrain's Fort on the South Fork of the Platte, Fremont pushed on ahead and made a wide exploring détour in the country about the headwaters of the Republican River, from the Arkansas to the South Platte. The re-united party then, with much toil and difficulty made its way across the main

divide of the Rocky Mountains to Great Salt Lake. After making a survey of the northern portion of this inland sea, Fremont struck to the northward and reached the Snake River, and passing and keeping on down it, and across its great bend by way of the Boisé River, he crossed it again and then proceeded on over the Blue Mountains to Fort Walla Walla. With his carts he pursued his westward way as far as Old Fort Dalles, and from this point went on to Fort Vancouver by boat. Thus, following nearly in the footsteps of Bonneville he crossed, to the north of the great interior basin, from the Rocky Mountains to the Pacific.

To examine this great basin was one of the principal ends which he had in view, and consequently we see him leave his carts at Fort Dalles and, unencumbered therewith, plunge into it on his homeward journey. Proceeding to the South, up the valley of the Des Chutes, he crossed over into the Klamath country. Here, turning eastward, he came in succession to Summer Lake, Abert Lake, and the Christmas (now called the Warner) lakes. Here he turned again to the south and crossing the Mud Lake vallies he came to Pyramid Lake and the Truckee River; leaving these he came to the Carson and then to the Walker River.

These three last-mentioned rivers, flowing from west to east, were very bewildering to the explorer. He expected to find within this region a great river, the Buenaventura, draining from east to west and discharging its waters into the Pacific Ocean. With the exception of Bonneville's determinations, upon which Fremont seems to have placed very little reliance, all geographical knowledge then extant, as well as all theories, implied the existence of this great river. His eager eyes were, however, strained in vain, and disappointed in his search, he turned to the west, and after almost incredible perils and sufferings in crossing the Sierra Nevadas in the dead of winter, he at last reached the warm and beautiful valley of the Sacramento. Remaining here only long enough to recruit his men and animals, the adventurous explorer continued on his way; going up the valley of the San Joaquin, he left it and crossed the Sierra Nevadas by the Te-hatche-pai Pass, and struck the old Spanish trail from Los Angeles to Santa Fé; on this he followed until he came to the Sevier River when he turned north to Utah Lake. He then made an examination and survey

of the regions of the North, Middle, and South parks in what is now Central Colorado, and in July, 1844, he reached the point from which he started on the Missouri.

In Fremont's third expedition, the country between the park region of the Rocky Mountains, and Utah, and Great Salt Lake, was more carefully examined. A survey was made of the southern portion of the Great Salt Lake, and the basins of the Humboldt, Walker, and Truckee rivers. Fremont then crossed the Sierra Nevadas by nearly the same route as that now followed by the Central Pacific Railroad, and reaching the Sacramento, ascended it to its sources, and crossed over into the Klamath Lake region. His surveys and astronomical determinations were now brought to a close by the outbreak of the Mexican War, and the stirring events in California incident thereto forbade any occupations of a peaceful character.

In consequence of Fremont's extensive travels over routes since pursued by emigrants, who followed him soon to the West, he has been dubbed in literature and history *The Pathfinder*.

In 1845, Lieutenants J. W. Abert and W. G. Peck of the Topographical Engineers made a reconnaissance survey about the headwaters of the Arkansas and Canadian rivers, which added largely to the store of knowledge concerning the Rocky Mountain region.

Lieutenant W. B. Franklin, T. E., marched with, and made a survey of the route pursued by an expedition in 1845, under command of Colonel S. W. Kearny. In this march the country from Fort Leavenworth to the sources of the Sweet-water branch of the North Platte was transversed by two different routes.

In the following year, 1846, a military force was gathered at Fort Leavenworth under the command of Colonel Kearny, which, under the designation of "The Army of the West," was destined to strike a blow at, and achieve the conquest of, the northern provinces of Mexico, and to make the long and painful march by the southern route from Leavenworth to San Diego. This was an opportunity not to be neglected, and consequently Lieutenant W. H. Emory of the Topographical Engineers was ordered to proceed with the expedition and make such a survey and collect such data as would give the government some idea of the region traversed.

Lieutenant Emory was assisted throughout the march by Lieutenant Warner, and for a portion of the way by Lieutenants

Abert and Peck, all of the Topographical Engineers. The Army marched from Bent's Fort over to Santa Fé, thence down the Rio Grande and over to and down the Gila. After crossing the Colorado, it kept on across the sandy desert and the coast range to San Diego, where the reconnaissance ended. Lieutenant Emory's report was extremely valuable, as besides the general knowledge gained, he made a connected system of latitude-longitude, and altitude determinations, from the Missouri River at Fort Leavenworth to the Pacific Ocean at San Diego. His was the first party to ever carry a mercurial barometer over land to the Pacific unbroken, an achievement which indicates the great care taken in the surveys.

Previous to setting out upon this expedition Lieutenant Emory had been engaged in the office of the Chief of Topographical Engineers for a number of years in the compilation of the geographical information respecting the West.

During and subsequent to the Mexican War, events occurred which aided in a very marked manner in the settlement and development of the West, and the consequent attainment of knowledge concerning it.

These events were the Mormon exodus to the valley of the Great Salt Lake; the acquisition of the vast territory from Mexico now included in California, Nevada, Utah, Wyoming, Colorado, New Mexico, and Arizona; and the discovery of gold in California. All of these events tended strongly to interest the public mind in the Great West, and in consequence we see numerous expeditions sent out to carefully examine the unknown and but little known sections: Mormon scouts scoured the country in every direction, seeking favorable places for settlement; and parties were out constantly seeking new and more favorable routes for emigrants. Officers of the Army stationed along the travelled routes gathered information from all these sources, and from the accounts of the trappers, hunters, and Indians, and furnished information to all emigrants passing their way.

In 1849 Captain W. H. Warner, Topographical Engineer, while surveying in Northern California and Southern Oregon, with the object of finding a practicable railroad route across the Sierra Nevadas, was surprised and killed near Warner's Lakes. He had previously been an assistant to Lieutenant Emory in his work in connection with the Army of the West.

Lieutenants Derby and Webster of the Engineers were engaged in 1847 and 1849 in surveys in California and Texas.

Lieutenant J. H. Simpson, Topographical Engineers, in 1849 made a chain and compass survey for a wagon road from Fort Smith on the Arkansas to Santa Fé. The survey was checked by astronomical determinations of position. This same officer accompanied the command of Colonel Washington in the expedition into the Navajo country, and made a valuable map of the region passed over.

Captain R. B. Marcy in 1849 rendered valuable service in reconnoitring the country in Western Texas and Eastern New Mexico.

One of the most able and exhaustive surveys which up to this time had been made, was that carried on in the years 1849-50 by Captain Howard Stansbury of the Topographical Engineers, assisted by Lieutenant J. W. Gunnison of the same corps.

The centre of their operations was the Great Salt Lake of Utah, which had by this time come to be recognized as a necessary point on any transcontinental route of communication. They made a careful survey of the lake, carrying over it a system of triangulation from a measured base and astronomical station, and thus determining the extent and shape of the lake and the position of its islands, jutting promontories, etc. Captain Stansbury traversed and examined the hitherto unknown deserts to the west of the lake, notwithstanding Bonneville and his hardy trappers had given it up, and the old mountainmen and all persons familiar with the general characteristics of the country assured him that his journey would not only be very hazardous but absolutely impracticable. The examination of the deserts was successfully made, though only after terrible sufferings and hardships. Captain Stansbury devoted much time to examining the mountain passes leading to the east and north from the Salt Lake Valley, and his discoveries enabled the emigrant roads to be much shortened, and were of great value in the subsequent location of the overland railroad.

Captain John Pope, Topographical Engineers, was engaged in 1849 in making a survey about the region of Pembina and the Red River of the North. A short time afterward he made a survey from Santa Fé to Fort Leavenworth.

During the years 1849, '50, and '51, a great deal was done toward acquiring a knowledge of the new State of Texas. The officers engaged on these surveys, and who furnished valuable informations, were Lieutenant-Colonel Joseph E. Johnston,

Lieutenant M. L. Smith, W. F. Smith, F. T. Bryan, and N. Michler, Topographical Engineers, H. C. Whiting of the Engineers, and Captain S. G. French, A. Q. M.

The Senate document, giving an account of these examinations, gives also the report of Colonel Johnston, with reference to the navigation of the Colorado; the report of Captain Marcy, on the route from Santa Fé to Fort Smith; and of Lieutenant J. H. Simpson, of the Navajo Expedition. It contains also several maps and seventy-five exceedingly interesting illustrations of the Zuni and Moquis Pueblos, pottery, paintings, Spanish ruins, and inscriptions, etc., with a number of excellent Indian portraits, costumes, views of scenery, etc.

In 1851, while on duty in New Mexico, Lieutenant J. G. Parke, Topographical Engineers, compiled a map of the territory from all available data.

Captain Sitgreaves, in 1850, assisted by Lieutenant Woodruff, made a survey of the northern and western boundary of the Creek country; in the following year he made a reconnaissance down the Colorado, in which he was assisted by Lieutenant J. G. Parke. This same year Lieutenant Derby made a survey of the lower portion of the Colorado.

In 1852, Lieutenant I. C. Woodruff, T. E., made a reconnaissance with the view of selecting proper sites for military posts of the country lying between the Smoky Hill fork of the Kansas and the Arkansas.

The same year found Captain R. B. Marcy and Bvt. Captain G. B. McClellan making a survey about the headwaters of the Red River.

I have now mentioned in a general way the principal expeditions conducted by officers of the Army up to the year 1853. I have only been able to enumerate them in a dry and statistical manner, as it is necessary to bring this article within the space allotted to it. Almost any one of the expeditions would furnish the materials for a most interesting article in itself. The expeditions have been made on plains, mountains, and deserts; the participants in them have encountered multitudinous dangers of all kinds from savage men and savage nature in the performance of their duty of collecting information for their government. They did not confine themselves to collecting topographical knowledge, but aimed at the collection of all kinds,—geological, zoölogical, botanical, economical, meteorological, etc.

In many of the expeditions the officers were accompanied and aided by civilians interested in particular branches of science, some of whom have since become very eminent in their chosen pursuits. The astronomical determinations of position and a large proportion of the topographical work had been done by the officers. The results of all these expeditions tended to increase and develop in the minds of men the grand idea of connecting the East and the West by a transcontinental line of railway. The government deemed it wise to take active part in determining the possibility and practicability of such a railway, and in consequence the PACIFIC RAILROAD SURVEYS were organized.

These surveys mark a very important era in the exploration of the West and the development of its geography. The passes through the Rocky Mountain chain, and the Sierra Nevada and Cascade ranges were examined wherever it was deemed possible for a railroad route to be found, and the approaches to, and lines connecting, these passes were surveyed, with sufficient accuracy to determine their feasibility as railroad routes, and to enable an approximate estimate of the cost of construction to be made. The whole country was belted with connected lines of preliminary surveys, and the practicability of several routes was demonstrated.

The explorers often had to operate in regions infested by very hostile and bloodthirsty savages, making their work extremely perilous and difficult. A knowledge of the cold and snows of winter was necessary, and this knowledge was obtained by examinations of mountain routes in the depth of winter, involving a tremendous amount of exhausting physical labor, endurance, and suffering from cold and hunger. In the arid regions of the Great Basin, the explorers endured the heat of summer and the pangs of thirst. It is impracticable here to give any thing like a complete summary of the work done by the Pacific Railroad explorers; the ablest engineers in the country were engaged upon it, and the results were compiled with all preëxisting information, and a map of the West was constructed far ahead of any which had before been published. This compilation was made by Lieutenants W. H. Emory and G. K. Warren, who probably did more toward collecting and rendering available for general use the geographical knowledge of the Great West, than any other men up to the period in which they labored. The route found and pronounced practicable between the 47th and 49th

parallels of latitude, was examined under the general charge of Governor I. I. Stevens, of Washington Territory, who was an Officer of Engineers, and resigned his commission the same year that the surveys were organized. This northern route is the one which is, to a great extent, being pursued by the Northern Pacific Railroad.

Assisting Governor Stevens were the following-named officers, some of whom have since obtained high rank and wide renown: Captain George B. McClellan and Lieutenant A. J. Donelson, of the Engineers; Lieutenants J. K. Duncan, Beekman Du Barry, C. Grover, R. Arnold, J. Mullan, and S. Mowry, of the Artillery; Lieutenants R. Macfeeley and H. C. Hodges, of the Infantry; and Dr. George Suckley, Medical Corps.

The route near the 38th and 39th parallels of latitude was examined by Lieutenant J. W. Gunnison, Topographical Engineers, and Lieutenant E. G. Beckwith, of the Artillery. Lieutenant Gunnison was killed by the Pah Ute Indians, in October, 1853, after which Lieutenant Beckwith had complete charge of the operations. Lieutenant Beckwith afterward surveyed a route from Salt Lake westward near the 41st parallel.

The route near the 35th parallel, now being built upon by the Atlantic and Pacific Railroad Company, was explored by Lieutenants A. W. Whipple and J. C. Ives, of the Topographical Engineers.

The route near the 32d parallel was examined east of the Rio Grande by Captain John Pope, T. E., and from the Rio Grande west to the Gila by Lieutenant J. G. Parke, T. E. Lieutenant R. S. Williamson made explorations to connect the routes near the 32d and 35th parallels, and was assisted by Lieutenants George Stoneman and J. G. Parke. Lieutenant Parke afterward made a preliminary examination for a railroad route from San Francisco to Los Angeles, west of the coast range.

Very important surveys were made to determine as to the feasibility of connecting the valleys of the Sacramento and Columbia by rail; these surveys were made by Lieutenants R. S. Williamson and H. L. Abbot, of the Topographical Engineers.

It may be interesting to note that the escort of Lieutenant Abbot on this work was commanded by the following-named officers, all soon to obtain distinction in the Civil War: Lieutenant H. G. Gibson, Third Artillery; Lieutenant George Crook, Fourth Infantry; Lieutenant J. B. Hood, Second Cavalry; and Lieutenant P. H. Sheridan, Fourth Infantry.

The reports of these Pacific Railroad surveys are contained in thirteen large quarto volumes, with maps, profiles, and sketches of the country, and embracing reports on geology, natural history, etc. In submitting these reports to Congress, Jefferson Davis, then Secretary of War, acknowledges the great aid which had been rendered by the officers of the Corps of Topographical Engineers employed in the office of the surveys. He specially acknowledges his obligations to Major W. H. Emory, "whose extensive knowledge of the western regions of our country, no small part of which he had actually explored, and whose sound judgment in all things connected with topographical reconnaissances and field operations, gave me important aid in the organization of the work and the subsequent office examinations necessary to systematize the results." He continues:—"Major Emory was succeeded by Captain A. A. Humphreys, whose high scientific attainments and power of exact analysis had been manifested in several important positions which he had held, and are further shown in the able and comprehensive examination, herewith submitted, of the reports of the several parties of exploration." He further acknowledges his obligations to Lieuts. G. K. Warren and H. L. Abbot, and to Capt. McClellan for their valuable services.

The grand scheme of a transcontinental railroad was not carried out, owing to sectional jealousy, until the advent of civil war, when it was deemed a matter of great importance to strengthen the bonds between the East and West in every available manner, and the government extended its aid in the most liberal manner toward building the road. Its final location was determined by the wish to go as close as possible to Mormon settlements in Utah, and the great Comstock silver mines of Nevada.

In surveying the boundary line between the United States and Mexico, as defined by the Treaty of Guadalupe Hidalgo, a number of officers of the army were engaged, chiefly Lieut.-Col. J. D. Graham; Lieuts. A. W. Whipple, C. F. Smith, and G. Thom, of the Topographical Engineers; and Lieuts. Tillinghast and Burnside of the Artillery.

By the Treaty of 1853 it was necessary to have a new boundary line to take in the area known as the Gadsden purchase. The survey of this line was entrusted to Major W. H. Emory, who was assisted by Lieuts. Michler and Turnbull of the Topograph-

ical Engineers, and in the office by Capt. G. Thom of the same corps, and was successfully carried to completion by them. The western portion of our northern boundary line, from the summit of the Rocky Mountains to Puget Sound, was surveyed and marked on the part of the United States by Lieut. J. G. Parke of the Topographical Engineers. This work was commenced in 1857, and the Civil War breaking out about the time of its completion, prevented a report of it being published.

The northern boundary from the Lake of the Woods to the summit of the Rocky Mountains was run and marked on the part of the United States by Captain W. J. Twining, assisted by Captain J. F. Gregory and Lieutenant F. V. Greene, all of the Engineers. The report of this survey gives a clear account of its organization and methods pursued, and of the progress of the work. In surveying this boundary the effect of mountain masses and unequal density of the earth in deflecting the force of gravity from the perpendicular and causing errors in astronomically determined positions, was shown and discussed with remarkable clearness.

Since the conclusion of the Pacific Railroad surveys, officers of the Army have made many other explorations and surveys of unknown eras or of regions about which it was desirable to obtain more definite information than that possessed. Many of them were reconnaissances made with marching bodies of troops, or for the purpose of locating military posts, wagon roads, or reservations for Indians.

Among those who have made these reconnaissance surveys, the results of which were made available for compilation, are the following :

Captain J. L. Reno, Ordnance Department, 1853.

Captain R. B. Marcy, Fifth Infantry, 1854; to sources of Brazos and Witchita rivers.

Captain Rufus Ingalls, Qm. Department in 1854-5; with Colonel Steptoe's command from Fort Leavenworth to California.

Lieutenant J. W. Withers, Fourth Infantry, in Oregon.

Lieutenant G. H. Derby, Topographical Engineers, 1854-5; in Oregon and Washington Territory.

Lieutenant G. H. Mendell, Topographical Engineers, 1855; in Oregon and Idaho.

Captain J. H. Simpson, Topographical Engineers, 1855; in Minnesota and Wisconsin.

Lieutenant G. K. Warren, Topographical Engineers, 1855; in Dakota, Wyoming, Nebraska, and Minnesota.

Lieutenant F. T. Bryan, Topographical Engineers, 1855; in Kansas and Colorado.

Lieutenant T. J. C. Amory, Seventh Infantry, 1855; in Indian Territory, Kansas, and Colorado.

Major H. W. Merrill, Second Dragoons, 1855; in Texas, Indian Territory, and Kansas.

Lieutenant J. N. Moore, Dragoons, 1855; in Texas and New Mexico.

Lieutenant E. L. Hartz, Eighth Infantry, 1856; in Texas.

Lieutenant F. T. Bryan, Topographical Engineers, 1856; in Kansas and Nebraska.

Captain J. H. Dickerson, Qm. Department, 1856; in Nebraska.

Lieutenant W. D. Smith, Second Dragoons, 1856; in Dakota and Nebraska.

Captain A. Sully, Second Infantry, 1856; in Dakota and Minnesota.

Lieutenant G. K. Warren, T. E., in 1856, made a survey of the Missouri, from the Big Nemaha to the Big Muddy, and of the Yellowstone to the mouth of Powder River. In the following year he examined the Loup Fork of the Platte, the Niobrara River, and the Black Hills.

In 1857-8, Lieutenant J. C. Ives made a careful examination into the navigability of the Colorado River of the West. At the mouth of the river he built a small steam-boat and with it ascended the river for 425 miles, and demonstrated its adaptability for navigation.

In the year 1856-7, Captain John Pope, T. E., made efforts to obtain water on the Llano Estacado, by boring artesian wells. Near the Pecos, he bored 1,050 feet without success.

Recent geological investigations made by the Department of Agriculture settle beyond reasonable doubt that there can be no hope of obtaining water by this means on the extended arid plains of the Southwest.

In 1859, an expedition under the command of Captain J. N. Macomb, of the Topographical Engineers, took the field from Santa Fé to explore the country to the northwest of this ancient town. Captain Macomb crossed the Rio Grande, and followed up the Chama nearly to its sources, when he left it and crossed the

divide between the waters of the Atlantic and Pacific, and came upon the headwaters of the San Juan, all the northern branches of which he crossed and examined. He continued to the northwest, and visited and located the junction of the Grand and Green rivers, forming the Colorado of the West. His homeward route was by the San Juan, which he struck near the mouth of the Rio de Chelle, and followed up it and Cañon Largo, and reached Santa Fé by skirting the Nacimiento Mountains to the west and south. Captain Macomb's map was the first to give a correct idea of this now celebrated San Juan country, and the report of Professor Newbury was the first to give a correct account of the geology of this instructive country. The war intervening prevented the publication of the reports of the exploration until 1875, although the map was completed in 1861.

The Mormon settlements in the valley of the Great Salt Lake and the military station of Camp Floyd located near by, formed for the many emigrants wending their way from the Missouri to the golden land of California an agreeable half-way resting place. Their march to this point had been up the valley of the Platte and across the Rocky and Wahsatch mountains, and without any particular difficulty, deprivation, or uncertainty being experienced. Here, however, all was changed ; they were on the confines of the Great Basin, and beyond lay the deserts, where they must expect to endure the most frightful sufferings and hardships, before reaching the great western Sierras bounding the land of their destination. The route to California across the Great Basin travelled for the first ten years after the discovery of gold, was that which had been explored by Bonneville and Fremont around the north end of Salt Lake and by way of the Humboldt River. For those emigrants going by way of Salt Lake City or Camp Floyd this was very circuitous, compelling them to go far to the north and round the lake, and then across to the Humboldt and down it to its sink, and then far southward to the Carson Valley at the eastern foot of the Sierra Nevadas.

The more direct route from Salt Lake City or Camp Floyd to the Carson Valley was across an unknown country the passage of which had never been attempted for fear of encountering frightful hardships in the deserts believed to exist there. It was known that if a practicable route across this country could be found, it would very materially shorten the travel, and this so impressed itself on the mind of Captain J. H. Simpson of the

Topographical Engineers, then on duty in Utah with General A. S. Johnston, that he in 1859 obtained authority from the Secretary of War to explore the country for a shorter route.

Captain Simpson's exploration resulted in the attainment of a thorough knowledge of the country, and in finding and locating a practicable wagon road which shortened the overland route by two hundred and fifty miles, and was in all respects better than the old route. This was immediately adopted for the overland mail, pony express, and telegraph, and has since been known as "Simpson's route." In this work he was assisted by Lieutenant J. L. Kirby Smith and H. S. Putnam of the corps of Topographical Engineers, and several civilian assistants.

Like the reports of Captains Macomb and Raynolds, the breaking out of the Civil War prevented the publication of the report of Captain Simpson, which was, however, published in 1876, fifteen years after it was completed, and is a very valuable contribution to our knowledge of the West.

It contains, besides the description of the explorations of Captain Simpson, a very complete and concise history of all the explorations which had been made in the Great Basin, in which many interesting points are discussed, as, for instance, "What white man discovered Salt Lake?" The question is left undetermined, although the evidence seems to be in favor of James Bridger's discovery in the winter of 1824-5. It confutes the claim of Fremont that he was the first to navigate its waters, by showing that in 1826 four men in the employ of Captain Sublette went partially around the lake in skin boats, searching for streams on which to trap beaver.

Captain Simpson's description of the country traversed by the new route was such as to give an entirely new conception to it; instead of a flat country scattered over with a system of small lakes and rivers and destitute of mountains, he showed it to be one of the most mountainous regions within our domain, and with very few lakes, generally confined to the bases of the encircling mountains. He was the first to show the general parallelism and north and south direction of the mountain ranges of the Great Basin.

The report also contains the journal of Mr. E. M. Kern of his explorations of the Humboldt River, Carson and Owens Lake, etc., under Captain J. C. Fremont in 1845, and a translation of a Spanish account of the remarkable journey of Padre Escalante in

1776-7 from Santa Fé to Utah Lake, and return by way of the Zuni and Moquis Pueblos.

The apex of the North American continent is that wild and rugged region of cloud-capped mountains, in the midst of which is located the Yellowstone National Park. At this continental crowning point the great rivers take their rise and flow their varying ways to the encircling oceans. The territory in this vicinity is the most interesting section of our country, and has been rendered classic ground by the labors of the early explorers and trappers, by the struggles and hardships endured within it, and by the blood which has flowed upon its mountains and in its valleys in combats with the savages, to whom it was an earthly paradise and the theatre of never-ending war. The more practical duties of the explorer in the finding and location of routes of communication had caused this extremely rough and almost inaccessible region to be to a great extent passed by, and it was not until 1859 that a definite endeavor was made by the government to secure a thorough and accurate knowledge concerning it. During this year, an expedition started out under instructions from the War Department to explore the region of country through which flow the principal tributaries of the Yellowstone River, and the mountains in which they and the Gallatin and Madison forks of the Missouri have their source.

The command of this expedition was entrusted to Captain H. F. Raynolds of the Corps of Topographical Engineers; and he was assisted by Lieutenant Henry E. Maynadier of the 10th Infantry, Lieutenant John Mullins of the 2d Dragoons, and a corps of civilian specialists and topographers. Captain Raynolds was fortunate enough to secure the services of James Bridger as guide and scout. This remarkable man had lived among the mountains and with the Indians for many years, and possessed more original knowledge concerning the West than any white man that ever visited it. Captain Raynolds in his journal continually expresses his wonder and delight at his greatly extended and accurate knowledge of the country. At this time Bridger and another trapper named Meldrum were the only white men who had ever visited the Yellowstone Lake and the valley of the Upper Yellowstone, and were the first to ever tell the story of the geysers and the singular and beautiful products of their play. Captain Raynolds, in the course of his exploration, endeavored to enter the park from the south, but was unable to do so,

as the attempt was made too early in the season, before the snow was sufficiently melted. Captain Raynolds, like all other travellers, testifies to the wonderful accuracy of the descriptions given by Lewis and Clarke of the scenes visited by them.

The region explored by this expedition was infested with great numbers of Indians—Sioux, Crows, Blackfeet, and Shoshonees—and it was only by a wise course throughout and the exercise of great tact that the leaders brought their parties safely through.

The work during 1859 was confined to the regions about the Cheyenne, Tongue, Powder, Rose Bud, and Little Big Horn rivers, and the parties wintered on the north fork of the Platte.

Early in the spring of 1860 they started out again, Captain Raynolds going across to the junction of the Popo Agie and Wind rivers. He ascended the latter stream, and at its head made an ineffectual attempt to enter the Yellowstone Park, contrary to the advice of Bridger, who told him that "a bird couldn't fly over without taking a supply of grub along."¹ Captain Raynolds crossed the Wind River range by the Union Pass, after great suffering and hardships, and descended to the Snake River. Thence he went up Henry's Fork and crossed the Madison and reached the junction of the three forks of the Missouri, where he was joined by Lieutenant Maynadier. The latter had gone from the winter encampment by way of the Sweet-water, Big Horn, Clarke's Fork, and Yellowstone, crossing from the Yellowstone to the Three Forks by nearly the same route that now is being pursued by the Northern Pacific Railroad.

At the Three Forks the parties separated again, Captain Raynolds going by way of the Missouri, and Lieut. Maynadier by way of the Yellowstone, examining these rivers to determine as to their navigability.

United at Fort Union, the expedition returned to the land of civilization. The stirring events of the War of the Rebellion prevented the publication of the report of Captain Raynolds until 1868, although the geographical information which he gathered was incorporated on the maps soon after the return of the party from the field.

In going down the valley of the Big Horn, Lieut. Maynadier had the misfortune to lose many of his notes, instruments, etc.,

¹ Captain Jones of the Engineer Corps crossed these mountains in 1873, and found that a practicable wagon road could be made through them.

in crossing a branch called the Stinking-water River, and as his account of the accident gives a good idea of some of the difficulties experienced in travelling through these wildernesses in the early days, I give it herewith :

June 8th.—Ascending from the bed of the stream to the plain, we travelled along the creek about fifteen miles, and searched several places for a ford, but found none.

Camped on the bank of the stream, at the foot of the bluff, in a grove of cottonwood, and with pretty good grass.

June 9th.—Finding no good ford, I determined to ascend the stream as far as practicable, hoping to be able to cross it higher up ; but on attempting to leave the plain on which we were travelling we got among some bare clay hills which were utterly impassable, and were compelled to return to the stream and camp on it about one mile above our camp of the 8th.

As a last resort, an attempt was made to cross by a raft. This was made by a wagon body being caulked and wrapped in a tent, which kept out water very well. On the morning of the 10th we collected all the chains and ropes and made a line, by which I hoped to be able to cross the stream. One end being attached to the wagon body, it was pushed off into the angry current, and four oars vigorously plied, but the force of the water was such that the body could not be got across the current, and it went rapidly down stream. The chain stretched and snapped, and left the crazy craft helpless in the stream. Borne furiously by the current it struck the rocky shore, when three of the men in it leaped out, leaving myself and one man to share the fortune of our impromptu boat. Swift as the wind we went on, and by some providential chance escaped the rocks that thrust themselves here and there above the foaming waters, until at about a mile below where we had started we managed to get into an eddy and made the shore.

A second attempt was equally unsuccessful, and we narrowly escaped going over some rapids that would have swamped the boat. Leaving it in the stream, where it had lodged on a reef, we prepared to get ashore, and found that the reef extended to the shore we had left, and probably entirely across the stream. I determined to try it, and getting my horse, found that I could ride without getting deeper than to the knee when on horse-back. Still it was a hazardous, almost a desperate resort, and I scarcely dared attempt to ford in such a current. My own horse was a very large one, while nearly all the others were small, and would have great difficulty in keeping their footing. Yet it was the only alternative, and, on consultation with my assistants, it was determined to try the ford ; accordingly we moved down to our camp of the 8th, and got every thing ready for a passage next morning.

June 11th.—After an early breakfast we commenced to ford, and in order to render more plain what follows, I will here give an account of the stream at the point where we forded it. It was a double bend like the letter S, and we were in the upper part. The breadth straight across was about 250 yards, but the reef on which it was fordable ran obliquely up stream, making the distance to be travelled by the animals from bank to bank about 500 yards. The reef had a breadth of ten or fifteen yards, sloping gradually up stream, but going off abruptly down stream into twenty feet water. The depth of water on the reef was about four feet, except for a space of about thirty yards, near the further shore, where it was nearly to the back of a medium-sized mule, and it was in crossing this thirty yards that the main difficulty lay.

I will not attempt to describe the swiftness of the current, for what I shall say of its effects will abundantly show its power and force. The largest mules were selected, and a single pack placed on the top of the pack-saddle, and each mule being led by a man mounted on another, they entered the stream. They succeeded better than I anticipated in keeping the mules up stream, and crossed the deeper part with no other damage than an occasional ducking. Finding that the animals could keep their footing, I determined to bring the chronometers and instruments across in the ambulance so as to prevent wetting them by the water which surged up against the sides of the mule and splashed over the pack. About half-past three in the afternoon I had the instruments and some other light articles placed in the ambulance on the seats, elevated entirely above the water. Four strong mules were attached, and two men detailed to ride along on the down-stream side of the mules to force them to keep up against the current. My horse being very tall and strong, and perfectly accustomed to the water, I took charge of the leaders and led them by a strap; the wagon-master led the wheel mules the same way; one of the most careful men was in the ambulance to drive; and having thus taken every precaution, we started.

Through the shallow part there was no difficulty, except that it was as much as the mules could do to draw the wagon through the roaring current; but when the deep part was reached, and the wheels were more than half submerged, nothing could resist the force of the water. The hind wheels were washed down, without being lifted from the bottom, until the fore wheels were locked under the side of the body. It was necessary to turn the leaders to get the wheels loose, and in doing it they slackened the traces, the hind wheels could not hold the carriage, and in a moment it was swept into deep water.

The mules, being entangled in the harness were soon drowned, and finding them dead, I let go and my horse swam ashore. The men

riding below, and the wagon-master, got ashore in the same manner, excepting that one had a very narrow escape, having in some way got off his mule, and being obliged to swim he fortunately passed close enough to shore to be rescued by Duval, the guide, and Mr. Warring. The man in the ambulance jumped out when it filled and swam to a shallow part of the reef, from which he was rescued and brought on shore on horseback. As soon as I ascertained that the men were safe I crossed the stream and followed it down at a fast gallop. At about two miles I saw the wreck lodged on an island, the top of the ambulance broken off, and every thing out of the body. A little further down I found the top washed ashore, and got the odometer, which had been fastened to it. Returning to camp I found that only a box of stationery, which had floated, had been recovered; every thing else must have sunk as soon as the ambulance turned over, and any effort to recover any thing at the bottom of the river would have been madness. It was now dark, but I thought it possible to obtain the harness off the mules, and went down with three men to where the wreck was lodged; after cutting some of the straps and loosening others the whole thing moved off, and it was beyond our power to hold it. We returned to camp wet, cold, hungry, and dispirited, and I passed the most wretched night it has ever been my lot to encounter; still I felt that the accident was not to be attributed to any want of care on my part, and I must here acknowledge my indebtedness to all the party under my command. They were calm, cool, and industrious, and faced the dangers of the day quietly and bravely. It is a matter of congratulation and thanks to Heaven that no human life was lost, when each person in the party was repeatedly exposed to a danger against which no human efforts could have availed. As a matter of obvious precaution I had directed that no man should carry a gun or any thing that would prevent him from swimming if he should be washed off his horse; hence there were several Maynard rifles in the ambulance, with other articles and weapons habitually carried on the person. There were also a sextant and horizon, three chronometers, and three barometers, which were all lost.

This Stinking-water River, the scene of Lieutenant Maynard's misfortune, is the same up which Captain Jones of the Engineers went in 1873, in his exploration of routes into the Yellowstone.

Captain J. W. Barlow, Engineer Corps, in 1871 made a reconnaissance in the basin of the Upper Yellowstone, gathering valuable topographical information. He was assisted in this work by Captain D. P. Heap, also of the Engineer Corps.

During the summer of 1873, Captain W. A. Jones, of the Corps

of Engineers, made a very accurate survey of a large portion of Northwestern Wyoming including the Yellowstone National Park. Captain Jones succeeded in entering the Park from the east by crossing the Sierra Shoshonee at the head of the Stinking-water River. After completing his work in the Park, he left it by travelling to the south, crossing the Barrier Mountains by the Two-ocean and Togwotee passes.

This expedition accomplished thus what had been deemed impossible from the days of the "old man of the mountains," James Bridger, to 1873.

Only the year before, the Superintendent of the Park declared in his report that it was impossible to enter it from Wyoming. Captain Jones' report upon the geography of the country and the possible and practicable routes of communication through it, and the reports of his assistants, Professor T. B. Comstock and Dr. C. L. Heizmann, U. S. A., in the geology and thermo-dynamics, archaeology and philology of this wonderful country are extremely interesting, and make the most complete and satisfactory account of the Yellowstone Park that has ever been published.

The Two-ocean Pass is the traditional pass told of by Bridger, who said that a stream came down from the mountains and the waters divided, part flowing to the Yellowstone and part to the Snake, and ultimately reaching the Atlantic and Pacific. His description was received with doubt, but was found by Captain Jones to be a true one.

A somewhat similar state of affairs exists at the headwaters of the Columbia. In a small level valley in the Rocky Mountains, surrounded on all sides by lofty jagged peaks, lie two small lakes or ponds within a few steps of each other. The outlet of one, Whirlpool River, flows to the Athabasca and thence by the MacKenzie to the Arctic Ocean; the outlet of the other, Portage River, flows to the Columbia and thence to the Pacific Ocean. This little valley at the summit of the Rockies was called the "Committee's Punch Bowl," and in the palmy days of the Northwest and Hudson's Bay Fur Companies, was a point of great importance and note in their long transcontinental journeys. Whenever a party would reach this valley the leader would invariably, if he had the material, make a bucket of punch, using the water from both lakes, and treat all his retainers and voyageurs.

Some of the headwater streams of the Missouri and Clarke's Fork of the Columbia are also said to be within a single step of each other.

In the year 1874, Captain William Ludlow, of the Corps of Engineers, was attached as Engineer Officer to an expedition under the command of the late General George A. Custer, organized for the exploration of the Black Hills of Dakota, one of the most fertile and valuable portions of the West. This expedition added much in accuracy and detail to the knowledge of this now famous region, which had before been partially explored by Lieut. G. K. Warren, in 1855, '56, and '57, and Captain William F. Reynolds in 1859 and '60. A number of gold-hunters travelled with the column, and demonstrated the existence of gold in the hills.

The following year, 1875, Captain Ludlow made a very careful reconnaissance survey of the region of country lying between the Yellowstone and that portion of the Missouri between the Three Forks and the mouth of the Muscle Shell. He also visited and reported on the geysers of the Yellowstone Park and the Grand Cañon, and made the most strenuous efforts, in his report and otherwise, to secure governmental protection for the beauties of this wonderland against the detestable vandalism of visitors. He recommended that the control of the park be turned over to the War Department, and that the troops should guard the lake, the mammoth springs, and the geyser basin, and not allow the work of centuries to be destroyed in a wanton manner.

Captain Ludlow was assisted in this expedition by Lieut. R. E. Thompson, of the Sixth United States Infantry, by E. S. Dana and G. B. Grinnell, who wrote a joint report on the geology of the country passed over. Mr. Grinnell also made a valuable zoölogical collection, upon which he reported.

The attention of the country has been recently called to the subject of the Yellowstone Park again, by General Sheridan and Governor Crosby, as well as by the exertions of an organization of schemers and capitalists to get control of the park for their own selfish ends.

It is sincerely to be hoped that from out the present agitation a system of government for the park may be developed, which will effectually preserve its beauties and render it an available, delightful, and interesting resort for the millions who will wish to visit it. I believe that the best government for the park is one modelled upon that of the District of Columbia, with three commissioners, two from civil life and one from the army, in control. Economy and efficiency would dictate that the troops in its vicinity should be utilized to guard the park and its treasures.

By proper management a sufficient revenue could be derived to make this government self-sustaining, and to carry on all necessary improvements, as building roads, enclosures, etc.

When the territory of Alaska was transferred to the United States in 1869, it became desirable to know whether Fort Yukon, a very profitable English trading post on the Yukon River was in our new domain or on British territory. To settle this mooted question, Captain Charles W. Raymond, of the Corps of Engineers, in 1867 went to Alaska and proceeded up the Yukon, from its mouth to Fort Yukon, a distance of about a thousand miles, making a careful and complete reconnaissance survey of the river. The river was ascended in a small stern-wheel steamer, taken up from California on the deck of a brig, and was the first steam-boat that ever plowed the waters of this magnificent river of two thousand miles in length, the largest which flows to the Pacific on the American continent.

It took twenty-three days, travelling night and day, to reach the fort from the mouth of the river. Captain Raymond's observations having determined that the post was located on Alaskan soil, he took possession of it in the name of the United States, and ordered the representatives of the Hudson's Bay Company to vacate.

During the War of the Rebellion the energies of daring and adventurous men found other outlets than in frontier explorations; and, in consequence, during its great conflicts and the succeeding period of unrest, we see but little added to the geographical knowledge of the Great West. The lessons taught by the war enlarged the minds of men, and brought about a change in the methods and scope of western surveys.

In the year 1867 the parties for the geological exploration of the fortieth parallel took the field. This expedition was conducted by Mr. Clarence King, under the general supervision of the Chief of Engineers of the Army, and resulted in the attainment of certain and accurate topographical and geological knowledge concerning the belt of country one hundred miles wide, lying along the Union and Central Pacific Railroad, from Cheyenne to the Sierra Nevadas. This, I believe, was the first time that specific appropriations, continuing for several years, was made for a geological survey of a large and definite section of the public domain. The early military explorers, Bonneville, Fremont, Stansbury, Simpson, Gunnison, Beckwith, and Lander, had lifted

the knowledge of the fortieth-parallel country out of the condition of the mythical, and this work of Mr. King's in the Great Basin, taken in connection with the work of Mr. Whitney, Colonel Williamson, General Abbot, and others in California and Nevada, and General Warren, Colonel Raynolds, and many others on the eastern slope of the Rockies, enabled a geological section of the whole West, from the Mississippi to the Pacific, to be constructed. Mr. King says that "the exploration embraces within its area a pretty full exposure of the earth's crust from nearly the greatest known depths, up through a section of 125,000 feet, taking in all the broader divisions of geological time,—a section which has been subjected to a great sequence of mechanical violence, and can hardly fail to become classic for its display of the products of eruption. This expedition has actually covered an epitome of geological history."

The full report of this survey, embracing almost every branch of natural science, is contained in seven large quarto volumes, besides the atlas of topographical and geological maps.

The expeditions in which the Army had been constantly engaged had covered the country with surveyed and reconnoitred lines which of course were of great value. But it was found that in compiling from these lines a general map, great wants were felt of a knowledge of the lands bordering the lines, and very serious and grave errors and discrepancies were found in the lines themselves, rendering it difficult to reconcile the conflicting data and construct a satisfactory and reliable map of any section. These difficulties arose largely from the lack of well-determined geographical positions. Lieutenant George M. Wheeler, of the Corps of Engineers, on duty at the Headquarters Department of California in 1869, made a reconnaissance in Southern and Southwestern Nevada, with a view to remedy defects and contradictions in the Department maps. Under the immediate order of the War Department he prosecuted an exploration in Nevada and Arizona in 1871, and while thus engaged he conceived the idea of obtaining government aid in carrying on a survey over the whole Western country. He formulated a scheme for doing the work which was approved by the War Department, and in 1872 the "Geographical Surveys West of the One Hundredth Meridian," or, as more commonly known, the "Wheeler Survey," commenced operations. The plan of Lieutenant Wheeler was, in brief, to divide the country west of the one hundredth meridian into

areas about equal in size, each to be represented by an atlas sheet ; which should be thoroughly surveyed throughout its entire extent before publication, and all these atlas sheets being so projected that any number of them could be united into one map.

To carry out this work, according to the plans proposed by Lieutenant Wheeler, required that selected points should be located astronomically with the greatest precision, and from these and measured bases a system of primary triangulation should extend over the entire area to be surveyed, forming a net-work upon which should depend the secondary triangulation and the topography.

The perfect and economical organization and prosecution of such a survey, extending over a great area, with such varied features, was of necessity not a thing to be arrived at at once, but must attain to its perfect state by taking advantage of all the lessons taught by experience in taking the observations and collecting information in the field, working it up in the office, and producing therefrom the maps and reports for distribution.

Lieutenant Wheeler was assisted in organizing and perfecting his survey, and in the field and office, by the following-named officers of the Army: Lieutenants Lockwood, Hoxie, Marshall, Bergland, Tillman, Price, Symons, Griffin, and Young, of the Engineers ; Birnie and Carpenter, of the Infantry ; Morrison, of the Cavalry ; and Whipple, Macomb, and Ludlow, of the Artillery. These officers all lent their hearty aid to the work of the survey, and in the performance of their most useful labors received the immense benefit which connection with such an organization bestows.

The survey ceased its active operations in the year 1879, and at this period, owing to the indomitable energy and marked ability of Lieutenant Wheeler, it had attained to a perfection in its organization and methods such as never was before attained for a similar purpose in the world, and will not soon be equalled.

The maps issued by Lieutenant Wheeler were of two classes: one showing the topographical features of the country ; and the other the land classification into timber, grazing, barren, agriculture, etc.

The work, while not being done with the high accuracy and precision of the Ordnance Survey of England or the Coast or Lake Survey, was yet done with sufficient accuracy for all

practical purposes, and was being done at a remarkably cheap rate, owing to the excellence of the system and discipline devised and maintained by Lieutenant Wheeler in the care of property, etc.

Much valuable geological work was also done during the continuance of the survey, but this was made secondary to topography, it being deemed that the geology should properly follow topography, and could follow at any time.

I cannot enumerate here the work done by those officers, detailed at the Headquarters of the Military Departments in the West, who have devoted their time and energies to the acquirement of geographical knowledge. Their work has been of a most valuable character, second only to that of the more centralized and extended organizations.

My self-imposed task has been rendered very much easier than it otherwise would have been, by consulting freely and taking from the Memoir on the Map of the United States prepared by the late General Warren.

I have given the officers mentioned, as a general thing, the titles under which they performed the deeds recounted. Many of them are now better known to the world under their glorious titles gained upon the battle-field; but I do not believe that there is one who does not look back upon his earlier labors in the field of science with pride and with a glow of pleasure in his heart. And certainly our country can never forget the part taken by the Army in the exploration of the West.

MEMOIR
OF
JONATHAN LETTERMAN, M.D.,

SURGEON UNITED STATES ARMY AND MEDICAL DIRECTOR OF THE ARMY OF THE POTOMAC.

BY BREVET LIEUT.-COLONEL BENNETT A. CLEMENTS,

SURGEON UNITED STATES ARMY.

*"— the iniquity of oblivion blindly scattereth her poppy, and deals with the memory of men without distinction to merit of perpetuity. * * * **

"Who knows whether the best of men be known, or whether there be not more remarkable men forgot, than any that stand remembered in the known account of time?"—SIR THOMAS BROWNE, 1686.

IT is the purpose of this memoir to perpetuate the name and to honor the memory of an officer who effected an organization of the Medical Department of an army in the field, that not only contributed in a large degree to the discipline and efficiency of the foremost Army of the Republic, but also robbed war of many of its horrors; who left behind him for the use of those to come the record of the means by which these noble ends may be again achieved; and who, in rendering this great service to his country, added a brilliant page to the record of the humane character of his profession.¹

Dr. Jonathan Letterman was born in Canonsburg, Washington County, Pennsylvania, on December 11, 1824. His father was an eminent surgeon and practitioner of medicine in the western part of that State, and carefully educated his son for his own profession. His studies were directed by a private tutor until he entered Jefferson College in his native county in 1842, and he graduated thence in 1845.

Pursuing his medical studies, he graduated at the Jefferson

¹ The writer is indebted to General C. H. Crane, Surgeon-General United States Army, and to Dr. Charles O'Leary, President of the State Medical Society of Rhode Island, for valuable aid in the preparation of this paper.

Medical College, Philadelphia, in March, 1849. In the same year he passed a successful examination by the Army Medical Board in New York City, and was appointed an assistant surgeon in the Army, June 29, 1849.

He served in Florida in the campaigns against the Seminole Indians from his appointment until March, 1853; he was then transferred to Fort Ripley, Minnesota, and in May, 1854, marched with troops from Fort Leavenworth, Kansas, to New Mexico. In that department he served at Fort Defiance in the country of the Navajo Indians, and was engaged in Colonel Loring's expedition against the Gila Apaches.

He continued on duty in New Mexico until the autumn of 1858, when he was granted a leave of absence after his service of four years on the frontier. In 1859 he was on duty at Fort Monroe, Virginia, and in the office of the late General Satterlee, United States Army, who then was the Chief Medical Purveyor for the Army. 1860 found him in California, where he was engaged in Major Carleton's expedition against the Pah Ute Indians.

In November, 1861, he accompanied troops from California to New York City, and was soon after on duty with the Army of the Potomac. In May, 1862, he was made Medical Director of the Department of West Virginia. He served in this position but a short time, for on June 19th of this year he was assigned to duty as Medical Director of the Army of the Potomac, succeeding Surgeon Charles Tripler, United States Army, who had been nominated by the President of the United States to the important position of Medical Inspector-General of the United States Army. On July 2d he received his promotion as surgeon, to date from April 16, 1862.

Dr. Letterman, proceeding to the field of his new duties, arrived at the White House, on the Peninsula, on the 28th June, but, owing to the interruption of communications, was unable to report to General McClellan until July 1st, and was assigned to duty by him on July 4, 1862.

The Army of the Potomac was then at Harrison's Landing, on the James River, whither it had retired after the exhausting Peninsula campaign.

The service he had seen on the frontier and in Indian expeditions had inured him to the hardships of military life. It also gave him an intimate acquaintance with the personal needs and

requirements of the soldier, which was now to be made available on a larger scale than had ever before been necessary in our country.

The Army, exhausted by its conflicts, and the malarious atmosphere of the Peninsula, was in great need of rest and recuperation. The great loss of material of every kind that it had sustained, and the impaired health of the troops, demanded the highest qualities for its reorganization and re-equipment.

General McClellan, in his report, says of the condition of his Army at this time:¹

"The nature of the military operations had also unavoidably placed the Medical Department in a very unsatisfactory condition. Supplies had been almost exhausted or necessarily abandoned; hospital tents abandoned or destroyed, and the medical officers deficient in numbers or broken down by fatigue."

On his assignment to duty as Medical Director of the Army of the Potomac, he received from the Surgeon-General a letter of instructions which may be of interest at this day.

"SURGEON-GENERAL'S OFFICE,

"June 19, 1862.

"SIR:

"You are detailed for duty with the Army of the Potomac as Medical Director.

"In making this assignment, I have been governed by what I conceive to be the best interests of the service. Your energy, determination, and faithful discharge of duty in all the different situations in which you have been placed during your service of thirteen years, determined me to place you in the most arduous, responsible, and trying position you have yet occupied.

"On the eve of your departure I desire to place before you some of the main points which should engage your attention.

"1st. You should satisfy yourself that the medical supplies are in proper quantity and of good quality, and that each Regiment has its full allowance, and you will hold the senior medical officer to a strict accountability for any deficiency. The time has passed when the excuse of 'no supplies' will be accepted.

"2d. You will lay before the officers of the Quartermaster's Department your necessities in regard to transportation, and communicate freely with the General commanding, relative to those things in which he is able to assist you.

¹ Ex. Doc. No. 15, 38th Congress, 1st session.

"3d. You will require all medical officers to be attentive and faithful in the discharge of their duties, and you will report instantly to the General commanding, and to this office, all cases of dereliction.

"4th. You will, in conjunction with Assistant Surgeon Dunster, U. S. A., Medical Director of Transportation, arrange for the safe, effectual, comfortable, and speedy transportation of such sick and wounded as in your opinion should be removed from the limits of the Army to which you are attached. You will bear in mind, however, the provision of General Orders No. 65, relative to the transportation of troops, and you will therefore, as far as possible, provide for those cases at such points in your vicinity as may seem best adapted to the purpose.

"5th. You will hire such physicians, nurses, etc., as you may require, and as you can obtain on the spot, making known to me immediately your deficiencies in that respect at the earliest possible moment, so that I can supply you.

"For the full performance of all these duties, you are authorized to call directly upon the Medical Purveyors in Washington, Baltimore, Philadelphia, and New York, who will be directed to furnish you with every thing you may ask for, regardless of supply-tables or forms. You will only be required to notify me by letter what you have ordered, and of whom, and you are directed to correspond frequently with me, and to make known such wants as can only be filled by my requisitions on the several bureaus here or through the orders of the Secretary of War.

"And now, trusting to your possession of those qualities, without which I should never have assigned you to the duty, I commit to you the health, the comfort, and the lives of thousands of our fellow-soldiers who are fighting for the maintenance of their liberties.

"I am, Sir, very respectfully,

"Your obedient servant,

(Signed)

"W. A. HAMMOND,

"Ass't Surg., J. LETTERMAN,

"Surg.-Gen'l, U. S. A.

"Medical Director.

"Army of the Potomac."

Dr. Letterman's attention was first directed to the removal from the Peninsula of the great number of sick, wounded, and broken-down men that trammelled the Army, to the enforcement of sanitary measures for improving and preserving the health of the troops, and to providing medical supplies. His recommendations were brief, plain, and practical, and were enforced with

energy. General McClellan, in his report already quoted, says : "All the remarkable energy and ability of Surgeon Letterman were required to restore the efficiency of his department; but before we left Harrison's Landing he had succeeded in fitting it out thoroughly with the supplies it required, and the health of the Army was vastly improved by the sanitary measures which were enforced at his suggestion."

In the history of our country there were no precedents for the organization for war of a Medical Department which could be adapted to such numbers as were then engaged in conflict, and no aid was to be had from the study of the medical service of foreign armies, except such as the example of their dire ill success afforded. The Medical Departments of the British and French armies had broken down utterly in the Crimean War in the sight of the world, and the few weeks' conflict between France and Austria, on the historic plains of Lombardy, in 1859, had been too short to admit of the development of any system of organization other than the defective one with which the campaign was begun.

In 1861 the French army was considered the model army of the world. Legouest, an experienced French military surgeon, in his work, "*Chirurgie de l' Armée*," published a year after the Army of the Potomac left the Peninsula, writes of the objects desirable to be obtained in caring for the wounded; but nowhere does he indicate what special means are to be adopted for their accomplishment, and he refers to the works of Larrey and Des Gennettes—surgeons with the first Napoleon,—and even to the ancient Paré and Percy for information on those points. And after stating the fact that even the first succor to the wounded on the battle-field is not so simple an affair as at first sight appears, continues (p. 984, 1st ed.):

"The removal of the wounded from the battle-field and their transportation to the hospital is the most defective part of the medical service. Even now, after the great wars of the end of the last century and the beginning of the present, after the bloody battles of our own times, this important service (in the French army) is delegated to no particular person, or rather no one has been given authority or placed in position to render it. Military surgeons who have been present in various engagements all know that when the wounded fall in the ranks, there are none, as a matter of fact, to carry them off except their own comrades, a service as painful to one as to the other; the soldier quits the ranks

often never to return or only after the fight is over; the number of men carrying off their comrades is rarely limited to the number really necessary, and one may sometimes see four, five, or even six soldiers conducting to a hospital a man slightly wounded and marching quite as well as his comrades."

In the French army during the Italian war of 1859 an attempt was made to prevent these abuses by forming brigades of stretcher-bearers composed of the musicians of each corps, but it was found wholly unreliable and impracticable. In our own armies no comprehensive system of caring for the sick and wounded had yet been devised. In the Army of the Potomac itself, the measures to this end were derived from the existing army regulations of 1861; the Quartermaster's Department was responsible for the transportation of the wounded and for the establishment of the hospitals in an action.¹

Perhaps no one in the responsible position of Medical Director of an army had ever before encountered more serious difficulties than did Dr Letterman's predecessor, Surgeon Charles Tripler, of the United States Army. Experienced in the war with Mexico, of military instincts and soldierly training, Dr. Tripler brought to this high duty the most untiring zeal and devotion to the interest of the soldier and the service. Delay and disappointment met him at every turn, as indeed was inevitable, for the whole army were alike inexperienced, and its appointments new and untried, and, above all, but few of the medical officers had any military training or habits. They shared with all other departments the misfortunes of inexperience.²

But the events of the Peninsular campaign had given to them all valuable experience and insight into the needs of the Medical Department. This experience made it apparent to this body of intelligent men, that a more comprehensive and practical system of caring for the sick and wounded than then existed, was still needed.

The great need of an ambulance corps had long been felt. No thorough system for the management of ambulances had yet been devised, and without responsible organization, or a head to govern their use, they were inefficiently managed in time of battle, and often diverted to improper purposes.

¹ See Circular, Head-quarters Army of the Potomac, Washington, March 7, 1862.

² See "War of the Rebellion, Official Records of Union and Confederate Armies." Series I. vol. v, pages 76-112.

It was at that time difficult to escape or break through the bonds which custom of service and military discipline had imposed even upon the most experienced officers of the Regular Army. But these restraints were being removed; the new head of the Medical Department of the United States Army, in disregard of precedent, gave extensive and independent authority to the officers of his corps, and especially to the Medical Director of the Army of the Potomac, for upon the condition of this Army at that time the attention of the whole country was directed.

In Dr. Letterman were found the courage and the clear perception to devise and adapt a system for the organization of the Medical Department, which interfered in no manner whatever with the military authority of any commander, and which utilized in the most practical way the material at hand for this important service.

Addressing himself at once to this serious task, amid the incessant labors of his new position, he, in a few weeks after joining the Army, drew up a plan for the organization of an Ambulance Corps, which was at once approved by General McClellan and published in General Orders dated August 2, 1862.

The plan of organization devised by Dr. Letterman, placed in the Medical Director of the Army Corps under the General commanding it, the entire control of the ambulances. The Ambulance Corps was divided into three divisions corresponding to the divisions of troops in each army corps, and all officers of every grade were forbidden to use ambulances or to permit them to be used for other than the purposes designated.

The order permitted their use for transporting medical supplies in urgent cases, and eventually they were habitually used for transporting supplies to the brigades and thence to regiments.

The men were detailed especially for their fitness for this service, and were taken from the regiments of the respective divisions. In the many schemes suggested by others to organize an ambulance corps, it was always proposed to enlist men specially for the purpose, but Dr. Letterman's knowledge of the service taught him how much better it was to take men who had already been drilled and disciplined, and who were identified with the regiments whose wounded they were to care for; and as their duties in the Ambulance Corps would not exempt them from the dangers and exposure to which their regiments had to submit, the spirit of comradeship was thus kept up.

Further mention of the details of this organization it is needless to give here. The provisions of the order were embodied in the Act of Congress, approved so late as March, 1864, with some few changes. Dr. Letterman himself believed that the act was defective in making the number of ambulances and its necessary complement of men dependent on the number of men in a regiment. The number in the latter constantly varied and especially after a battle, and incessant and harassing changes were thus entailed. If the policy so strenuously urged by officers in the field, of filling up old regiments to the standard strength with new *men*, instead of forming new *regiments*, were adopted, the organization of the Ambulance Corps would be less liable to be frequently changing, and more stability would be secured.

This act of Congress is based on the order written by Dr. Letterman, devised by him and approved by General McClellan. It fortunately made a uniform system for every army in the field, but the student will miss from the act the precise details designating specifically the practical work to be done by each and every one connected with it. It is most important that those details should be known to every member of the Ambulance Corps, and especially when a new army shall have to be formed.

The Military Committee of the Senate submitted their original draft of the bill to Dr. Letterman for suggestions and recommendations; he gave them in a brief and comprehensive way, suggesting a number of practical changes in the original bill, which he deemed of vital importance to the efficiency and discipline of the corps, all of which were adopted and incorporated in the bill, which finally became a law on March 11, 1865. It must excite surprise that such a law was not passed until more than two years after final and absolute proof of the perfect adaptation of the system to the needs of the service had been given at the first battle of Fredericksburg, in December, 1862.

No large opportunity, however, was given to test this plan during the transfer of the Army of the Potomac from the Peninsula to Alexandria, Virginia. Dr. Letterman shared with General McClellan the enforced inaction to which the head of the Army of the Potomac was for a while condemned at this critical period; but when the latter was again placed in command of that gallant but dispirited army on the night of September 2, 1862, Dr. Letterman resumed control of its Medical Department.

He found that the supplies were woefully deficient. In the

rapid transfer of the army from the Peninsula, supplies and ambulances had been left behind or lost, and medical officers and the officers of the Ambulance Corps were worn down by fatigue from hard service. The deficiencies had to be made up while the Army was actually on the march into Maryland. Under these disadvantages the battle of Antietam was fought, but even then the great value of the new system of managing the ambulances was shown, and warranted great hopes of its future excellence.

Some changes relating to the responsibility for the care of the material of the Ambulance Corps, which were of great importance, as they rendered the Medical Department in a great measure independent in its transportation, were made with the co-operation of the Chief Quartermaster in the fall of 1863; and some alterations and additions in the details were embodied in a revised ambulance order, dated August 24, 1863, but beyond these no change in its working was ever made in that army.¹

Very soon after the battle of Antietam, Dr. Letterman made another change of great importance in the method of supplying the Army with medicines, dressings, and medical material. The quantity of these materials carried was often excessive, and in other instances insufficient; the mode of transporting them and of supplying them to the regiments was cumbrous and often unreliable in time of battle.

With that sagacity and practical knowledge of adapting means to ends which he possessed in so marked a measure, he reduced by careful selection the amounts of medicines and materials to be carried, lessened the number of wagons required to transport them to nearly one half the number previously in use, and gave simplicity, compactness, and efficiency to the whole service of supply. The details of this arrangement were published in a circular dated October 4, 1862,² and no material change in its requirements was ever found necessary, the completeness of the plan having been at once demonstrated. This circular was revised and republished September 3, 1863.

Dr. Letterman now gave his attention to preparing a better method of providing for the care and treatment of the wounded in battle. It was not then known, nor is it now believed, that any precise system of Field Hospitals was then in use in any of

¹ This order will be given in an appendix to this "memoir," and will repay the careful attention of the student. See Appendix I and IV.

² Vide Appendix II.

our armies; but it was of the greatest importance that a system should be devised and made compulsory, by which every person should, beforehand, know what his duties were, and which should hold each one to a proper responsibility, whilst the most skilful surgeons should be available for the performance of operations on the field.

On the 30th of October, 1862, while the Army of the Potomac was still in Maryland, he issued the important circular establishing Field Hospitals and providing for all the details necessary for the prompt and efficient care of the wounded. It never required change or alteration, and was in use until the Army of the Potomac was disbanded. This circular¹ completed his scheme of organization of the Medical Department. Its provisions were adopted by the Surgeon-General of the Army, who, on March 25, 1863, ordered its observance by all medical officers of the armies of the United States.

It remained now to give practical effect to the working of this scheme of organization. The Ambulance Corps, the method of supply, and the Field-Hospital system were carefully designed to work as a whole. It is within the knowledge of the writer that the principal medical officers of the Army at once saw the simplicity of these measures, which also promised to increase the effectiveness of their own arduous labors in time of battle. The battle of Fredericksburg, in December, 1862, afforded the first opportunity to test whether they were to be successful. The actors in that dreadful conflict may themselves testify.

Surgeon Charles O'Leary, then Medical Director of the Sixth Corps, now President of the State Medical Society of Rhode Island, said in his official report:²

"Being appointed Medical Director of the Sixth Corps a few days prior to the battle of Fredericksburg, December 13, 1862, I had the opportunity of putting in operation the Field-Hospital organization devised by the Medical Director of the Army, and witnessing its beneficial results. Within a very few hours after the positions were designated for the Field Hospitals on December 12th, all the necessary appliances were on hand, and the arrangements necessary for the proper care of the wounded were as thorough and complete as I have ever seen in a civil hospital.

"During the engagements of the 13th, the ambulances being guided

¹ Vide Appendix III.

² "Med. and Surg. History of the War," part 1, Med. Vol., Appendix, page 134.

and governed with perfect control and with a precision rare even in military organizations, the wounded were brought without any delay or confusion to the hospitals of their respective divisions. Not a single item provided for the organization of the Field Hospitals suffered the slightest derangement, and the celerity with which the wounded were treated, and the system pervading the whole Medical Department, from the stations in the field selected by the assistant-surgeons with the regiments, to the wards where the wounded were transferred from the hands of the surgeons to be attended by the nurses, afforded the most pleasing contrast to what we had hitherto seen during the war. * * * * *

"Both military commanders and medical officers agree that it would have been impossible for wounded to have received better care and treatment than they did in that battle."

A similar state of things characterized the operations of the Medical Department in the rest of the Army.

In the operations at the time of the battle of Chancellorsville in the following May, the Sixth Corps charged and took Marye's Heights behind the town of Fredericksburg. The Medical Director of the Corps, in his report (*op. cit.*, p. 138), says:

"The charge was made at 1 P.M., the heights were taken, and in less than half an hour we had over 800 wounded. Two hours after the engagement, such was the celerity and system with which the ambulances worked, the whole number of wounded were within the hospitals under the care of nurses. * * * * *

"Our hospital organization was strictly on the plan prescribed in the circular of the Medical Director of the Army. Supplies of every thing necessary were never for a moment deficient."

It was not always that the exigencies of a battle permitted the use of all the means for the speedy care of the wounded that had been prepared with such labor and forethought. Such in fact was the case at the battle of Chancellorsville, in the Wilderness, where, despite Dr. Letterman's most urgent representations, but few ambulances and medicine wagons were allowed to come on the field; and again for a time at the battle of Gettysburg, where for three days the issue hung in the balance. In the last-named battle the orders of the Commanding General had not only reduced materially the number of supply wagons for the Medical Department, but the exigencies of the closely contested

conflict did not admit of those that were at hand being brought on the field. But the ambulance organization was intact, and such was the perfection of its administration, that on the early morning of 4th July, the day after the battle ended, not one wounded man of the great number who had fallen (over 14,000) was left on the ground. The Inspector-General of the Army himself reported this interesting fact from personal examination. No better example of the efficiency of the ambulance system than this and that already mentioned at the capture of Marye's Heights could be given. In this mighty battle of Gettysburg it fell out that for some reason not now known, in one corps of the Army, the Twelfth, no reduction in the number of supply wagons had been made, nor had any been sent to the rear as was the case in the rest of the Army, and its surgical organization was therefore intact. Its Medical Director, Surgeon McNulty, United States Volunteers, in referring to the working of the hospital organization, reported :¹

"It is with extreme satisfaction that I can assure you that it enabled me to remove the wounded from the field, shelter, feed them, and dress their wounds within six hours after the battle ended, and to have every capital operation performed within twenty-four hours after the injury was received."

A few more illustrations and proofs of the efficiency of the organization of the Medical Department of the Army of the Potomac will be given, drawn from official reports. Surgeon (now Brevet Brigadier-General) T. A. McParlin, United States Army, who in 1864 succeeded Dr. Letterman in that Army, in reporting his preparations for the campaign to Richmond in 1864, referring to the ambulance law adopted by Congress in the spring of that year, says :²

"As its provisions corresponded in all essential particulars to the system already instituted in the Army by Surgeon Letterman, no difficulty or delay occurred in its adoption. * * * Tens of thousands of wounded men have been carefully, speedily, and safely transferred from the field of battle to the field hospitals, and from thence to the large dépôt hospitals, and this has been done without confusion, without hindering the movements of the Army, or conflicting with the operations of the other Staff Departments."

¹ "Medical and Surgical History of the War," part i, Med. Vol., Appendix, p. 141.

² *Op. cit.*, p. 149.

And of the Division Field Hospitals he says: "The Medical Staff of these hospitals was the same as established by Surgeon Letterman." And in beginning his report of his service in the Army as the successor of Dr. Letterman, he says: "The excellent condition of the Department at that period (January, 1864) evidenced the success of his labors."¹

It is unnecessary to multiply commendations and instances of the thorough working of Dr. Letterman's system.² Such was its practical "common-sense" character that the Medical Officers of the whole Army vied with each other in carrying out its requirements, and their intelligence and devotion to their duty and to their profession engendered among them a spirit of enthusiasm. The writer well remembers with what earnestness a most distinguished Surgeon of Volunteers and Surgeon-in-chief of a Division, Holman, once said to him: "You can't imagine how deeply we all are indebted to Letterman for telling us what to do, and showing us how to do it." No higher commendation could be bestowed on Letterman's work, nor on the speaker's own devotion to his profession and the service.

It came soon to be known that the Medical Officers of the Army of the Potomac could care for their wounded without the uncertain aid of surgeons and nurses from civil life. Before the battle of Chancellorsville, Dr. Letterman telegraphed the Surgeon-General of the Army, at Washington, not to permit civilian surgeons to come to the field. He knew his corps could do the required work, and he desired to add to their self-reliance. For similar reasons he did not at this period, when his Department was in good working order, encourage the Sanitary Commission to apply their noble means of relief to the service of that Army. His confidence in his corps was well founded, for the wounded from that battle were treated, with the exception of a very small number, in the Field Hospitals of their respective divisions which were established on the north side of the river, and it was observed by all that the wounded never before did so well after any great battle of that Army. The different Army corps vied with each other in

¹ *Op. cit.*, p. 148.

² For illustration in more detail of the practical working of this organization the reader may consult the following-named works. It is not intended here to do more than show its results.

"Medical and Surgical History of the War of the Rebellion," Part I, Medical Volume and Appendix.

Same. Part III, Surgical Volume, chap. xv: "Medical Recollections of the Army of the Potomac." D. Appleton & Co., New York.

seeing to the comfort of their wounded ; the men were among their comrades and treated by their own surgeons ; their morale was maintained, and a great many speedily returned to the ranks who otherwise would not have rejoined in time for the next impending campaign.

The knowledge of the ability of the Army in the field now to take thoroughly good care of its wounded became eventually a source of great satisfaction to the country. A writer in a prominent Philadelphia newspaper, early in 1864, said, in drawing attention to the Medical Department of the Army of the Potomac :

"The great and successful efforts which have been made by the Medical Department of the Army are known to but few outside of the Army. We have alluded to this subject in order that the friends and relatives of those who are now imperilling their lives in defence of their country may have some idea of what is doing by a humane and bountiful government for the relief of those who fall in its battles ; and that they may rest easy in the confident assurance that there is a department of the government which looks after the wounded and sick with the utmost care, and provides for all their wants. This Department is silently, and unostentatiously, and successfully working to alleviate the sufferings that must ensue after a battle ; and our people may rest assured that it will continue to take such care of the wounded and sick as has never before been done, either upon this continent or in the world."

And at about the same time there appeared in a prominent medical journal in New York, the following remarks which aptly express the view then being taken of the results of Dr. Letterman's labors. After giving a clear outline of the organization, it is said :¹—

"Whatever may be the future of the Army of the Potomac, it has gained a reputation for perfection of organization which will secure it a commanding position among the armies of history.

* * * * *

"But the *Medical* Department has special claims upon the attention of the country. Without detracting from the merits of the other branches of the Army, we may say that the organization of the Medical Department has attained a degree of perfection which is found in no other army at home or abroad. It will be seen that the reforms were radical

¹ *Med. Times*, N. Y., April 30, 1864.

and developed, under different heads, a system of operations which covered the whole field of medical service. Its utility consisted in reducing to harmony and concert of action every branch of the medical service, and in placing the right man in the right place; unity and efficiency was the key-note of the reform proposed, and to this every other consideration had to yield. The entire medical staff of the Army became a unit, and moved with the deliberation and precision of a single person. Of the practical value of these improvements we are now able to speak in the most unqualified terms. They have been put to the most rigid test, and have been found in the highest degree practical and effective. The medical staff of no army ever worked in such perfect harmony and subordination on the battle-field as that of the Army of the Potomac. The battles of South Mountain, Crampton's Gap, Antietam, Fredericksburg, Chancellorsville, and Gettysburg, have placed the most violent strain upon every detail of this organization, whether taken as a whole or in its separate parts, and yet it has never been found wanting. The prompt care of the wounded in these sanguinary battles was never exceeded under similar circumstances.

"The highest attestation of the value of the present organization of the ambulance service of the Army of the Potomac is found in the unanimity with which it has been pressed upon the attention of Congress, and the recent almost unanimous action of that body in extending its provisions to all the armies of the United States. Its system of Field Hospitals has in the main also been adopted by the Surgeon-General for all our armies.

"Too much praise cannot be awarded to Dr. Letterman for the patient and intelligent zeal with which he has labored to establish and perfect the present organization of the medical service of the Army of the Potomac. Its conception could only occur to a mind apt in method and organization, and while of comprehensive grasp, yet trained by experience to the study of details. * * * To Dr. Letterman is due the gratitude of the country for his perseverance in effecting these desired reforms."

As time passed and officers and men became familiar with the workings of all its details, this system proved capable of improvement in the direction of simplicity.

Field Hospitals were organized for service even on the march; and in camp, and during periods of inactivity, it eventually became manifest that regimental hospitals were seldom necessary for the best interests of the sick—only the lighter and more trivial cases of disease and injury being treated in their regiments.

This organization, it will be seen, was devised by Dr. Letterman without aid from the experience of other armies; it bore the test of the gigantic struggles of the great armies in Virginia, and the writer has failed of his purpose if he has not shown that, solely to Dr. Letterman's ability and his practical mind are due the conception and efficient working of this scheme, which provided an Ambulance Corps for all our armies, added to the efficiency of the Army of the Potomac, and saved that Army from much of the inevitable suffering of war.

It was not brought to its high state of efficiency without great and persistent labor, in which the Medical Directors of Corps and Divisions and the entire Medical Corps of that Army fully shared. Dr. Lettermann's admiration of his corps of surgeons was great, and his confidence in them unbounded. Nearly all had come recently from civil life, and had entered upon novel and exacting duties without previous training; but as soon as a plan was presented to them by which their sick and wounded could be cared for systematically, and their own great personal labors made to accomplish speedy and effective results, they eagerly grasped at the opportunity, and on every battle-field of that great Army displayed professional and administrative ability and a devotion to their duties that Dr. Letterman omitted no opportunity to recognize and commend.

He well knew, and none knew better, how much of credit was due to the surgeons from civil life. He had the aid at different periods of his administration of some few able officers of the Regular Army of military training. To Alexander, Moore, Milhau, Wilson, of the Cavalry; Webster, Thompson, McMillan, and a few others of the Regular Medical Corps, he gave on all proper occasions the fullest meed of praise; but to those of the Volunteer Staff and to the Regimental Surgeons he knew the actual results attained were mainly due. In his work entitled "Medical Recollections of the Army of the Potomac," he writes in the highest terms of praise of the services of the able volunteers who shared with him the labors of his Department. He commended in brief and soldierly terms the services of O'Leary, Taylor, Dougherty, Heard, Pancoast, Janes, Holman, McNulty, Oakley—and never omitted an opportunity to extol them.

In a letter addressed to the Commanding General of the Army on the eve of the battle of Chancellorsville, he attributed the great improvement in the vigor and health of the troops "to the

zeal and energy displayed by the Medical Directors of Corps and the Medical Officers of this Army generally, in inculcating the absolute necessity of cleanliness, and attention to the precautions for preserving the health of the troops," etc., etc., and he adds: " My directions and suggestions have been carried out with an intelligence and zeal which it affords me great satisfaction to bring to the notice of the Commanding General."

The President of the United States was then visiting the Army, and expressed gratification at the favorable exhibit of the health of the Army and at the just praise bestowed on the Medical Officers.

But the management of the Medical Department did not always escape unfavorable criticism. On every battle-field suffering is inevitable, and, amid the excitement and seeming confusion only the practised and experienced eye can see the harmonious operation of an extensive system. Many inexperienced persons represented that on many battle-fields the wounded were not well cared for, yet such complaints scarcely ever were heard from the wounded. Straw to lie on, food and water, and the skilful attention of his surgeons, are all that the tried soldier desires or the experienced medical officer would demand on the battle-field; yet there were at times even persons in authority, who, being ignorant of and inexperienced in the method of governing a vast establishment, were incapable of understanding the true meaning and significance of what appeared upon the surface of events on the battle-field. Some such at times would create misunderstanding and annoyance; but Utopian dreams of entire perfection have no place in the mind of the practised military man, and least of all did they find lodgement in the practical mind of Dr. Letterman.

It seems probable that the changes which are being made in the method of conducting war in the future will involve alterations, in some degree, of the details of the plan of organization of the Medical Department of an army in the field that Dr. Letterman devised and perfected; but changes in its essential features are deemed unlikely to be required in this or the next generation, and any scheme radically different is not likely to be proposed. Its simplicity and tried adaptation to all emergencies of warfare must render its adoption inevitable.

Whatever changes may be made in the future methods of warfare in this country, it may well be doubted if any Medical Corps will be willing to adopt the view expressed by a distin-

guished officer of our Army,¹ that in future wars, "the sick and wounded will generally be sent to the rear, no longer to appear on the field during that war."

No point was made more prominent, or considered more important in Dr. Letterman's administration of the Army of the Potomac, than the necessity of treating the curable sick and the wounded in their own field-hospitals, in order that they might the sooner rejoin the ranks.

A war would be brief indeed if some of the sick and wounded could not rejoin their colors before its termination, and the just pride of a medical corps, apart from other equally weighty considerations, would not readily tolerate a system which regarded all sick and wounded as no longer to be counted on for active service.

It is not intended in this sketch to treat at length of the details of his administration. He put an end to the depleting of the ranks of the Army which had been caused by injudicious and careless discharges from the service, and by the license of sending unfit men to General Hospitals; and he insisted upon having the sick and the wounded treated in the Division Hospitals of their own Army Corps whenever the conditions of the military operations permitted; and by wise and practical sanitary measures, which were strenuously *enforced*, he kept that Army in a state of vigor and health altogether unparalleled in armies of its magnitude.

Amid the labor required to accomplish these results, he did not lose sight of the opportunities which the experience of the Army would afford of enlarging the then existing knowledge of military medical science, if it were properly recorded. The blank forms which he devised for this purpose were clear and comprehensive, and they were filled up and kept by the Medical Officers with a degree of accuracy and care which could have been secured only in a well-organized and thoroughly disciplined Medical Department. There is no reason to believe that the medical and surgical records of the Army of the Potomac, which were continued and perfected by his distinguished successor, Surgeon T. A. McParlin (now Brevet Brigadier-General), U. S. A., are full and complete to an extent never before deemed attainable.

His orders and instructions, when the general plan of his

¹ JOURNAL OF MILITARY SERVICE INSTITUTION, VOL. II, NO. 5, p. 8.

management had become familiar to his assistants, were few and brief, and marked by a spirit of directness and practicability, and an intimate knowledge of the character of the soldier and the influences which affect him, as well as by the clearest conception of the needs of the service, in which the maintenance of the effective strength of the Army and of the vigor and spirit of its individuals was never lost sight of. It is not too much to say that he succeeded in infusing into the officers of his Department much of the energy and directness of purpose which marked his own acts, and governed his conception of the duty of a Medical Officer of the Army.

Dr. Letterman's claims to the grateful remembrance of his profession and of his countrymen, rest mainly upon the great services he rendered to his government in the Army of the Potomac, and the writer has therefore endeavored to present, in some detail, but as briefly as could be done, a plain account of the work he did and the results which were achieved by the Medical Department of that Army under the guidance of his practical and comprehensive mind.

To him is justly due the praise of originating a system of medical administration which alleviated the sufferings and preserved the lives of thousands of his countrymen, added to the vigor and effective fighting strength of the principal Army of the Republic, and materially aided in perfecting and maintaining its discipline; and which has had no equal in the armies of modern times for simplicity and effectiveness.

For having done these things he has a just claim to the grateful remembrance of his professional brethren, of his military associates, and of his countrymen.

In October, 1863, Dr. Letterman obtained a short respite from duty with the Army and married Miss Mary Lee of Maryland, a highly accomplished lady, who was closely connected with some of the most prominent families of historic name in the adjacent States of Maryland and Virginia. On the occasion of his marriage he was presented, to his infinite surprise, with an elegant service of silver by the Medical Officers of the Army of the Potomac, with a note expressing feelings of great kindness to him. It was probably the first distinct intimation that he had ever received of the special regard entertained for him by that body of officers. In acknowledging its receipt he expressed the pride he felt in being an officer in that Army and his gratification at being so kindly regarded by its Medical Officers.

When the Army of the Potomac went into winter-quarters after the military operations at Mine Run, Dr. Letterman, in December, 1863, requested the War Department to relieve him from duty with that Army with which he had so closely identified himself.

It was not known to even his intimate friends, and it can hardly concern those now living, why he took this step. He himself writes that it was evident no military movements could be made by either Army at that season ; "The Medical Department had been fully organized in all its branches * * * * * and little more remained to be done beyond the ordinary routine of duty." The labor and responsibility he had endured well entitled him to a respite ; he may have felt that other hands than his could now guide the instrument that he had so laboriously designed and perfected, and it may also be that some perception of failing health might have influenced his determination. But it caused the deepest regret to the Medical Officers when his intention to sever his connection with that gallant Army became known.

The principal Medical Officers of the Army, at once and wholly unknown to him, united in a "Memorial" to the Military Committee of the United States Senate urging, that he be honored with the rank and rewarded with the emoluments granted to the heads of other Staff Departments in the field, it being hoped that he might thereby be induced to rescind his resolution. This "Memorial" is in terms which constitute the highest commendation that his co-laborers in the Medical Department could confer, and it is here given entire.

"To the Committee of the Senate on Military Affairs :

"Actuated purely by an interest in the welfare of the public service, and believing that the honorable body we address are actuated by the selfsame motive, being composed of men selected as the Nation's representatives for their zeal, their patriotism, their knowledge, and integrity, to watch over the military affairs in which now lies the Nation's life or ruin, to correct their abuses, to remedy defects, to inaugurate and encourage improvement and efficiency in every department,—we beg to bring to their notice a subject, than which none other has, from its intrinsic importance, a stronger claim on their attention.

"The Medical Department of this Army has, within the past year, approached to a degree of organization and perfection never attained even in the armies of those military powers where for centuries profes-

sional skill, aided by experience of many wars, and encouraged by the patronage and the rewards of military rulers, has labored for its improvement. We express not the sentiments of Medical Officers only ; we give the opinion of Military Commanders, when we affirm that not only the remarkable state of health, but in great measure the tone, the vigor, and in part the discipline of this Army, is due to the efficient officer at the head of its Medical Department.

" When we contrast this Army at present, with what it was when Surgeon Letterman assumed the charge of its Medical Department, when the tide of men flowing to the rear depleted its ranks, owing to a lax system of discharges, or no system at all, and owing to an unchecked license of granting passes to hospitals ; when we compare the provisions now made for the wounded with what they were before his time, we cannot help congratulating the Army and the country upon the change, and cannot forbear bringing to your notice the merit of the officer to whom that change is due.

" The Medical Department, without a head to guide it in the first campaign of this Army, between the complaints of the men, and the importuning solicitations of officers on every side, and without resources to provide for the sick, inclined universally to the only resource left, that of getting rid of every man who succumbed, or feigned to succumb, to the hardships of military life.

" The Medical Officers saw and appreciated the evil, but were in their subordinate capacity helpless to remedy it.

" The depletion of the Army by the great number sent to the rear has been stopped ; ample means provided and skilfully applied afford the sick all comfort necessary for their recovery within the lines. Sickness, by wise sanitary regulations, inculcated and rigidly enforced by constant vigilance, has been prevented from making its customary inroads upon the strength of the Army. A system of ambulance has been devised, of the merits of which, and of its adaptation to all the vicissitudes of campaigns, we can adduce no stronger proof than that it has been embodied in a bill providing an Ambulance system for the Armies of the United States, by the Chairman of your Honorable Committee. We may search history in vain for campaigns of equal severity, for battles of equal magnitude, with those of this Army for the past eighteen months, and we challenge history to produce a battle wherein the hundreds of wounded have been so well and so rapidly provided for, as the thousands in the great battles of this Army.

" For the man who has benefited so much by his ability, by his untiring zeal, our Department, and in benefiting one has benefited each department of the Army, we ask or claim no extraordinary tribute, we merely represent for the sake of the Armies of the United States that he

be honored with the rank and rewarded with the emoluments granted to the heads of other departments in the field, and that he be retained in his present position in order to complete successfully the organization he has devised, and to give the Government, the Country, and the Armies, the proof of its benefit in the practical success of its working. We make this appeal with feelings remote from personal considerations ; we make it because we believe the interests of the Service will be promoted by the measure we recommend ; we make it because we believe the Medical Department of the Armies of the United States will be thereby raised to the proud preëminence of being the most effective in any military organization of the world ; we make it because we believe, and in this belief we are seconded by the voice of every man within and without this Army, acquainted with its history, that he alone who has organized the Medical Department is the most competent to guide its practical working."

This memorial was drawn up entirely without Dr. Letterman's knowledge, and was presented in person to Senator Wilson, then Chairman of the Military Committee of the United States Senate, who enthusiastically expressed his gratification at this evidence of the high esteem in which Dr. Letterman's services were held by his own Department, and he promised to use his earnest efforts before Congress to have its purpose effected ; but before any action could be taken Dr. Letterman had been relieved, and nothing further could therefore be done.

When he was ordered to duty as Medical Director of the Army of the Potomac, he held the rank only of "Captain," though he soon after became, by regular promotion, a "Major." It will excite surprise that such a position should not entail a higher rank when the heads of all other Staff Departments in the field, in our own Army had much higher rank, and when in all other armies of modern times it is given only to officers of the highest grades.¹

But, in obeying the orders of the War Department, he accepted the great responsibilities of the high position as he would have done the lightest that could have been imposed on him. He had not sought the position, and he was not consulted as to his detail for it. In a private letter written some time later he says: "I knew nothing of it until it was done. It was a position I did not seek ; it was one I could not decline." He accepted it as a soldier should do, and he retired from it when his work was done ; but it

¹ In February 1865, Congress passed an Act giving higher rank and pay to Medical Directors.

will ever be a great and lasting regret to his friends and comrades that he did not remain and inseparably link his name with his work, and with the glorious record of that grand Army until the consummation of its mission at Appomattox.

On being relieved from duty with the Army of the Potomac, Dr. Letterman was assigned as Medical Inspector of Hospitals in the Department of the Susquehanna, in which position he remained until December, 1864. Flattering offers of a position as superintendent of a commercial company in Southern California, which afforded a prospect of highly lucrative gains, had been made him by Mr. Thos. A. Scott, then President of the Pennsylvania Railroad Company, and he was induced to resign from the Army. His Army friends strenuously endeavored to prevent him from taking this step, and even entreaty was used; but he was not to be turned from his purpose, and his resignation from the Army was handed in and accepted by the President, to take effect December 22, 1864. He was twice recommended by General McClellan for brevets for his services, and also by the Surgeon-General, in March, 1863.

The enterprise for which he had given up his commission as an officer of the Army that he had held for over fifteen years, unfortunately did not fulfil the hopes of its originators, and Dr. Letterman retired from its management and took up his residence in San Francisco, where he resumed the practice of his profession.

In 1866, whilst engaged in Southern California, he prepared and published an account of his administration of the Medical Department of the Army of the Potomac. This work is entitled "Medical Recollections of the Army of the Potomac." At the time of its publication the country was resting under the reaction following the great and exhausting war, and interest in its events had not yet been revived, and in consequence this work has not attracted the attention that, in the opinion of the writer, it well deserves. It is replete with practical observations of the highest value, and in recounting the medical history of the different battles of that Army, he has made a valuable contribution to the science and art of military administration. In it he refers, often in ardent terms, to the services rendered by his medical colleagues. In his preface he says it was "prepared amidst pressing engagements in the hope that the labors of the Medical Officers of that Army may be known to an intelligent people, with

whom to know is to appreciate, and as an affectionate tribute to many—long my zealous and efficient colleagues—who, in days of trial and danger which have passed, let us hope never to return, evinced their devotion to their country and to the cause of humanity, without hope of promotion or expectation of reward.¹

In the autumn of 1867, he was elected Coroner of the City and County of San Francisco, an office understood to be very lucrative; but before he entered upon its duties, a great and lasting affliction fell upon him in the sudden death of his devoted wife on November 1, 1867.

Under the weight of this great sorrow, he entered upon the duties of his new office, but with his usual energy and resolution, he performed them so satisfactorily that he was re-elected to the office for another term, on the expiration of which, on December 4, 1871, he retired to private life.

He had been commissioned, in 1868, by Governor Haight, as Surgeon-General of the State of California. In 1870, the Regents of the University of California elected him a member of the Board of Medical Examiners of that university, and in 1871 he was made a member of the first class of the Military Order of Loyal Legion of the United States.

But the dark shadow of his domestic affliction never passed away from his noble spirit; his health, already seriously impaired by long existing chronic disease of the intestines, became very precarious.

On March 13, 1872,—but a few months after retiring from the office of Coroner,—he became very ill, and was visited by Dr. A. S. Ferris, of San Francisco, and by Dr. Wm. Hammond, an old friend and former colleague in the Army. As soon as it became known that he was seriously ill, troops of friends hastened to his side; his exhaustion rapidly increased, and, though he received every attention that skill and devoted friendship could bestow, he sank and died on March 15, 1872.

His remains were removed to St. Mary's Cathedral, in the city of San Francisco, where the last rites of his church were celebrated, and thence were escorted by the members of the Loyal Legion and a body of distinguished officers of the Army and Navy, to Lone Mountain Cemetery, near that city, and laid

¹ "Medical Recollections of the Army of the Potomac," by Jonathan Letterman, M.D. D. Appleton & Co., New York.

to rest. At his death he was forty-seven years and a few months old.

Dr. Letterman's character was of such simplicity that no extended phrases are required to do it honor. His directness of speech and manner expressed the frankness and sincerity of his nature. Of a truly modest disposition, he possessed great kindness of heart and sensibility to the feelings of others, and he united to these endearing qualities the keen sense of humor that so often accompanies them. Unselfish himself, he was generous in according praise to his colleagues, and his guiding thought was to do his whole duty, whatever it might be, as thoroughly as he could do it. A true friend to all who gained his confidence, he was unswerving in his devotion to the right, and it may be truly said of him that he was an honest man in thought and in deed.

An interesting reminiscence of his earliest service in the Army has recently been given by a distinguished officer.

Military service on the frontier, in the days when railroads were not, brought men into intimate association; the common dangers and exposure, and the isolation from civilization, gave prominence to every trait of character, and brought into relief the virtues and the feelings of every one. Enduring friendships were formed in those days now passed, a pleasing illustration of which the writer is able to present, through the kindness of a friend, in the following graceful tribute to Dr. Letterman's memory, from General W. W. Loring, under whom he served when the latter was Colonel of the Regiment of Mounted Rifles of our Army when Dr. Letterman entered the service, and who later held high rank in the Egyptian Army of the Khedive.

"No. 9 WAVERLEY PLACE, NEW YORK.

"Nov. 27, 1882.

"Dr. I. COOPER M'KEE,

"U. S. Army.

"DEAR DOCTOR:—I recollect our old friend Dr. Letterman with great affection. * * * For several years we served together at Fort Union, New Mexico, where there was stationed the larger portion of my old regiment, and I always had reason to be thankful that we were favored by a gentleman of such equable temperament and such skill in his profession. I never knew an officer who was all the time more ready to act at the call of duty; full of manly sympathy, he was ever ready to render

timely aid to the suffering, whether at the summons of an officer or the call of the private soldier.

"These and his many virtues endeared him to the entire command. Socially, he was modest and retiring, gentle, almost childlike in his character. No one who had the pleasure of knowing him but formed a very high estimate of his ability, and (though comparatively young at that time) of his varied experience.

"From my close intimacy with him, I became aware that he was an ardent student, and no man in his corps sought more earnestly to attain the highest knowledge in the scientific advancement of his profession.

"I have hastened to send you this short note, and to add, though slight, my respectful homage in remembrance of a generous and true-hearted gentleman; and though our fortunes were in opposite directions, I have never ceased to look back to our early acquaintance on that distant frontier service, as one of the pleasant episodes in my life, and, as you may conceive, I recall the many incidents connected with it to make green in my memory one of those who was without guile, and who never did an intentional wrong to any man.

"With kindly regard, truly,

(Signed)

"W. W. LORING."

The friends and comrades of Dr. Letterman in the Army of the Potomac will read with special gratification the following note from his old and beloved commander, General McClellan, which expresses in generous terms his appreciation of Dr. Letterman's services and character.¹

"WASHINGTON, Febr'y 26, 1883.

"Gen'l CHAS. H. CRANE,

"Surgeon-General U. S. A.

"MY DEAR GENERAL:—I have read with the greatest interest Dr. Clements' memoir of our old friend Letterman.

"It recalled in all its freshness the memory of those trying days during which it was my good fortune to have him at my side as the Chief Medical Officer of the Army of the Potomac. He joined me in the midst of the cares inseparable from the close of a week of continuous battle.

"Thousands of sick and wounded were to be cared for with insufficient means.

¹ The manuscript of this paper, through the kindness of the Surgeon-General of the Army, was submitted to General McClellan, who returned it with the note given in the text.

"I saw immediately that Letterman was the man for the occasion, and at once gave him my unbounded confidence. In our long and frequent interviews upon the subject of his duties, I was most strongly impressed by his accurate knowledge of his work—the clear and perfectly practical nature of his views and the thorough unselfishness of his character. He had but one thing in view—the best possible organization of his Department—and that, not that he might gain credit and promotion by the results of his work, but that he might do all in his power to diminish the inevitable sufferings of the soldiers and increase the efficiency of the Army.

"I never met with his superior in power of organization and executive ability.

"It is a great satisfaction to me to be able once more to bear testimony to my intense gratitude for the services he rendered to the Army under my command, and my admiration for his high qualities as an officer and man.

"Very sincerely, your friend,

"GEO. B. McCLELLAN."

The writer of this paper, though honored with the friendship of Dr. Letterman, and intimately associated with him in his administration of the Medical Department of the Army of the Potomac, would gladly have left to abler hands the grateful task of endeavoring to rescue from oblivion the record of his able, faithful, and useful services.

But there seemed to be no other one to render to his memory this last office of justice and of friendship; and he presents this memoir, however inadequate it may be, to the Army, to the Medical Profession, and especially to the surviving Medical Officers of the Army of the Potomac, as a tribute due to the memory of a most faithful officer, who devoted his great talents and all his energy to the welfare of the men of that Army, and to the honor of his profession and of his corps.

APPENDIX.

I.

AMBULANCE CORPS.

HEAD-QUARTERS, ARMY OF THE POTOMAC,

August 24, 1863.

GENERAL ORDERS, }
No. 85.

The following revised regulations for the organization of the Ambulance Corps, and the management of the Ambulance Trains, are published for the government of all concerned, and will be strictly observed :

1. The Army Corps is the unit of organization for the ambulance corps, and the latter will be organized upon the basis of the Captain as the commandant of the corps, one 1st Lieutenant for each division, one 2d Lieutenant for each brigade, one Sergeant for each regiment.

2. The Privates of this corps will consist of two men and one driver to each ambulance, and one driver to each medicine wagon.

3. The two-horse ambulances only will be used, and the allowance, until further orders, to each corps, will be upon the basis of three to each regiment of infantry, two to each regiment of cavalry, one to each battery of artillery, to which it will be permanently attached, and two to the head-quarters of each army corps, and two army wagons to each division. Each ambulance will be provided with two stretchers.

4. The captain is the commander of all the ambulances, medicine and other wagons in the corps, under the immediate direction of the Medical Director of the Army Corps to which the ambulance corps belongs. He will pay special attention to the condition of the ambulances, wagons, horses, harness, etc., and see that they are at all times in readiness for service; that the officers and men are properly instructed in their duties, and that these duties are performed, and that the regulations for the corps are strictly adhered to by those under his command. He will institute a drill in his corps, instructing his men in the most easy and expeditious method of putting men in and taking them out of the ambulances, lifting them from the ground and placing and carrying them on stretchers, in the latter case observing that the front man steps off with the left foot and the rear man with the right, etc.; that in all cases his men treat the sick and wounded with gentleness and care; that the ambulances and wagons are at all times provided with attendants, drivers, horses, etc.; that the vessels for carrying water are constantly kept clean and filled with fresh water; that the ambulances are not used for any other purpose than that for which they are designed and ordered. Previous to a march he will receive from the Medical Director of the Army Corps his

orders for the distribution of the ambulances for gathering up the sick and wounded previous to, and in time of, action ; he will receive orders from the same officer where to send his ambulances, and to what point the wounded are to be carried. He will give his personal attention to the removal of the sick and wounded from the field in time of action, going from place to place to ascertain what may be wanted ; to see that his subordinates (for whose conduct he will be responsible) attend faithfully to their duties in taking care of the wounded, and removing them as quickly as may be found consistent with their safety to the field hospital, and see that the ambulances reach their destination. After every battle he will make a report, in detail, of the operations of his corps to the Medical Director of the Army Corps to which he belongs, who will transmit a copy, with such remarks as he may deem proper, to the Medical Director of this Army. He will give his personal attention to the removal of sick when they are required to be sent to general hospitals, or to such other points as may be ordered. He will make a personal inspection, at least once a month, of every thing pertaining to the ambulance corps, a report of which will be made to the Medical Director of the Corps, who will transmit a copy to the Medical Director of this Army. This inspection will be minute and made with care, and will not supersede the constant supervision which he must at all times exercise over his corps. He will also make a weekly report, according to the prescribed form, to the same officer, who will forward a copy to the Medical Director of this Army.

5. The 1st Lieutenant assigned to the ambulance corps for a division, will have complete control, under the captain of his corps and the Medical Director of the Army Corps, of all the ambulances, medicine and other wagons, horses, etc., and men in that portion of the ambulance corps. He will be the Acting Assistant Quartermaster for that portion of the corps, and will receipt and be responsible for all the property belonging to it, and be held responsible for any deficiency in any thing appertaining thereto. He will have a travelling cavalry forge, a blacksmith, and a saddler, who will be under his orders to enable him to keep his train in order. His supplies will be drawn from the depot Quartermaster, upon requisitions approved by the captain of his corps, and the Commander of the Army Corps to which he is attached. He will exercise a constant supervision over his train in every particular, and keep it at all times ready for service. Especially before a battle will he be careful that every thing be in order. The responsible duties devolving upon him in time of action, render it necessary that he be active and vigilant and spare no labor in their execution. He will make reports to the captain of the corps, upon the forms prescribed, every Saturday morning.

6. The 2d Lieutenant will have command of the portion of the ambulance corps for a brigade, and will be under the immediate orders of the commander of the ambulances for a division, and the injunctions in regard to care and attention and supervision prescribed for the commander of the division he will exercise in that portion under his command.

7. The Sergeant will conduct the drills, inspections, etc., under the orders and supervision of the commander of the ambulances for a brigade, be particular in enforcing all orders he may receive from his superior officer, and that the men are attentive to their duties.

The officers and non-commissioned officers will be mounted. The non-commissioned officers will be armed with revolvers.

8. Two Medical Officers, and two Hospital Stewards will be detailed, daily, by roster, by the Surgeon-in-Chief of Division, to accompany the ambulances for the Division, when on the march, whose duties will be to attend to the sick and wounded with the ambulances, and see that they are properly cared for. No man will be per-

mitted, by any line officer, to fall to the rear to ride in the ambulances, unless he has written permission, from the senior Medical Officer of his regiment, to do so. These passes will be carefully preserved, and at the close of the march be transmitted, by the senior Medical Officer with the train, with such remarks as he may deem proper, to the Surgeon-in-Chief of his Division. A man who is sick or wounded, who requires to be carried in an ambulance, will not be rejected, should he not have the permission required ; the surgeon of the regiment who has neglected to give it, will be reported at the close of the march, by the senior surgeon with the train, to the Surgeon-in-Chief of his Division. When on the march, one half of the privates on the ambulance corps, will accompany, on foot, the ambulances to which they belong, to render such assistance as may be required. The remainder will march in the rear of their respective commands, to conduct, under the order of the Medical Officer, such men as may be unable to proceed to the ambulances, or who may be incapable of taking proper care of themselves until the ambulances come up. When the case is of so serious a nature as to require it, the surgeon of the regiment, or his assistant, will remain and deliver the man to one of the Medical Officers with the ambulances. At all other times the privates will be with their respective trains. The medicine wagons will, on the march, be in their proper places, in the rear of the ambulances for each brigade. Upon ordinary marches, the ambulances and wagons belonging to the train will follow immediately in the rear of the division to which it is attached. Officers connected with the corps must be with the train when on the march, observing that no one rides in any of the ambulances except by the authority of the Medical Officers. Every necessary facility for taking care of the sick and wounded upon the march will be afforded the Medical Officers by the officers of the ambulance corps.

9. When in camp, the ambulances will be parked by divisions. The regular roll-calls, reveille, retreat, and tattoo, will be held, at which at least one commissioned officer will be present and receive the reports. Stable duty will be at hours fixed by the captain of the corps, and at this time, while the drivers are in attendance upon their animals, the privates will be employed in keeping the ambulances to which they belong in order, keeping the vessels for carrying water filled with fresh water, and in general police duties. Should it become necessary for a regimental Medical Officer to use one or more ambulances for transporting sick and wounded, he will make a requisition upon the commander of the ambulances for a division, who will comply with the requisition. In all cases when the ambulances are used, the officers, non-commissioned officers, and men belonging to them, will accompany them ; should one ambulance only be required, a non-commissioned officer as well as the men belonging to it, will accompany it. The officers of the ambulance corps will see that ambulances are not used for any other purposes than that for which they are designed, viz. : the transportation of sick and wounded, and in urgent cases only, for medical supplies. All officers are expressly forbidden to use them, or require for them to be used, for any other purpose. When ambulances are required for the transportation of sick or wounded at Division or Brigade Head-quarters, they will be obtained, as they are needed for this purpose, from the Division train, but no ambulances belonging to this corps will be retained at such Head-quarters.

10. Good, serviceable horses will be used for the ambulances and medicine wagons, and will not be taken for any other purpose except by orders from these Head-quarters.

11. This corps will be designated for Sergeants, by a green band one and one quarter inches broad around the cap, and chevrons of the same material, with the point toward the shoulder, on each arm above the elbow. For Privates, by a band the same as for Sergeants around the cap, and a half chevron of the same material on each arm above the elbow.

12. No person except the proper Medical Officers, or the officers, non-commissioned officers, and privates of this corps, will be permitted to take or accompany sick or wounded to the rear, either on the march or upon the field of battle.

13. No officer or man will be selected for this service except those who are active and efficient, and they will be detailed and relieved by Corps Commanders only.

14. Corps Commanders will see that the foregoing regulations are carried into effect.

By command of Major-General MEADE:

S. WILLIAMS,

Assistant Adjutant General.

II.

SUPPLY TABLE FOR THE MEDICAL DEPARTMENT OF THE ARMY
OF THE POTOMAC.

HEAD-QUARTERS ARMY OF THE POTOMAC,
MEDICAL DIRECTOR'S OFFICE,

September 3, 1863.

[CIRCULAR.]

The following table of supplies for the Medical Department of this Army is published, instead of the one contained in the Circular from this office of October 4, 1862.

Experience has more fully shown the expediency of the manner of supplying this Department, as ordered by the Circular referred to, and it will be kept up.

There will be allowed, in the Army of the Potomac, the following supplies to a Brigade for one month, for active field service, *viz.* :

One Medicine Wagon, filled.

One Medicine Chest for each Regiment, filled.

One Hospital Knapsack for each Regimental Medical Officer, filled.

Supplies in the list marked "A," which will be carried in an ordinary Army wagon.

The Surgeon-in-Chief of each Brigade will require and receipt to the Medical Purveyor for *all* these supplies, and will issue to the senior Medical Officer of each Regiment in his Brigade the Medicine Chest and Knapsacks, taking his receipt therefor. The Wagons, both Medicine and Army, will be receipted for by the Ambulance Quartermaster.

The Surgeons-in-Chief of Brigades will issue to Regimental Medical Officers such of the supplies from the Medicine or Army Wagon as may from time to time be required. These issues will be informal, the Surgeons-in-Chief giving no invoices, demanding no receipts, but accounting for them as expended. At the same time they will be particular that no improper expenditure or wastage is permitted. These officers are especially directed, when they shall have drawn the monthly supply, not to divide it out among the Regiments, but only to issue the articles at such times and in such quantities as they are needed for use, or to keep the Medicine Chests and Knapsacks supplied.

Requisitions will be made in duplicate, and in strict conformity with this table; and in all cases the articles will be enumerated in the order in which they occur in it.

Supplies will only be issued by the Medical Purveyor upon requisitions approved by Medical Directors of Corps, and these officers are particularly enjoined to revise all requisitions with care, that sufficient supplies may be on hand, and yet that no unnecessary expenditure be permitted. As far as possible, requisitions will be made but once a month, and special requisitions avoided as far as practicable.

The supply allowed will be kept up, and Medical Directors will see, especially before a march or a battle, that timely requisitions are made, and the supplies obtained.

In all ordinary cases, the amount on hand at the time the requisition is made, will be given, as well as the amount required, and requisitions will be made only for such articles, and in such amounts, as may be necessary to fill up the Brigade Supply to the amount ordered to be kept on hand.

Should the welfare of the sick demand a greater amount than is given by this table, or for articles which are not allowed by it, the reasons therefor must be fully and clearly stated, and the requisitions approved at this office. The Medical Purveyor will keep on hand only such articles as are contained in this table.

Instruments, except such as are enumerated in this table, will be issued only upon requisitions approved at this office.

When articles, such as Instruments, Medicine Chests, are from any cause unserviceable, they will not be turned in to the Medical Purveyor, unless inspected and ordered to be disposed of in accordance with the instructions contained in General Order No. 37, Head-quarters of Army of the Potomac, April 2, 1863. Whenever it becomes necessary, from any other cause, to turn in supplies to the Medical Purveyor, application, with the reasons therefor, will be made to this office.

One Knapsack will be carried, in each Regiment, when on the march, by a Hospital Nurse.

ARTICLES.		IN MEDICINE WAGON.	[A.]	IN ARMY WAGON.
Acaciæ pulvis	Oz.	8		
Acid: sulphuricum aromat:	"	8		
" tannic:	"	1		
" tartaricum	"	8		
Æther sulphuric:	"	32	Oz.	32
" spirit: comp:	"	16	"	16
" " nitrici	"	32	"	32
Alcohol	Botts.	12		
Alumen	Oz.	8		
Ammonia carbonas	"	8		
" liquor	"	32	Oz.	64
" spirit: aromat:	"	4	"	16
Argenti nitras	"	1		
" " fusum	"	1		
Bismuth subnitras	"	16		
Camphora	"	8		
Cantharidis ceratum	"	8		
Capisci pulvis	"	8		
Cera alba	"	4		
Ceratum adipis	Lb.	3	Lb.	4
" resinae	"	1		
Cinchoniae sulphas	Oz.	24		
Chloroformum, (in 8 oz. bottles.)	"	32	Oz.	192
Collodium	"	1		

ARTICLES.		IN MEDICINE WAGON.	[A.]	IN ARMY WAGON.
Copaiba	Oz.	32		
Creosotum	"	4		
Cupri sulphas	"	2		
Extractum aconiti rad : fluidum	"	4		
" belladonnæ	"	1		
" cinchona fluidum	"	16		
" colchici sem : fluid :	"	4		
" colocynthidis comp :	"	8		
" ipecachuanæ fluid :	"	8		
" senegæ fluid :	"	8		
" zingiberis fluid :	"	16		
Ferri chloridi tinctura	"	8	Oz.	16
" et quiniae citras	"	1		
" persulphatis liquor	"	4		
" " pulvis	"	1	Oz.	16
Glycerina	"	8		
Hydrargyri pilulæ	"	8	Oz.	16
" unguentum	Lb.	1		
" " nitratis	Oz.	4		
Hydrargyrum c. creta	"	8		
Iodinum	"	2		
Ipecachuanæ et opii pulvis	"	8	Oz.	48
Ipecachuanæ pulvis	Oz.	8		
Lini pulvis	Lb.	8		
Magnesiae sulphas	"	8	Lb.	16
Morphiae	Oz.		Oz.	
Oleum oliveæ, (in 32 oz. bottles.)	Botts.		Botts.	
" ricini	"	2		
" terebinthinæ,	"	4		
" tiglii	"	1		
Opii pulvis	Oz.	8	Oz.	16
" tinctura	"	16		
" " camphorata	"	16	Oz.	32
Pilulæ camphoræ (gr. 2) et opii (gr. 1)	Doz.	8	Doz.	8
" cathart : comp :	"	8	"	24
" opii	"	8	"	24
Plumbi acetas	Oz.	8	Oz.	32
Potassæ arsenitis liquor	"	8		
" bicarbonas	"	8		
" chloras	"	8	"	32
" permanganas, (crystals.)	"	2		
Potassii iodidum	"	8	"	32
Quiniae sulphas	"	10	"	48
" " (in pills, 3 grs. each.)	Doz.	8	Doz.	24
Sapo	Lb.	8	Lb.	4
Scillea syrpus	"	4	"	4
Sinapis nigrae pulvis	"	6	"	6
Sodæ chlorinat : liq : (in one pound bottles.)	"	1	"	6
" bicarbonas	Oz.	8	Oz.	64
" et potassæ tartras	"	16		
Spiritus frumenti	Botts.	24	Botts.	24
" vini gallici	"	6	"	24
Sulphur			Oz.	32
Zinci chloridi liquor	Oz.	16	"	96
" sulphas	"	2		

ARTICLES.	IN MEDICINE WAGON.	[A.] IN ARMY WAGON.
HOSPITAL STORES.		
Beef stock, (2 pound cans.)	Lb.	Lb. 48
Candles, sperm	Lb. 2	" 12
Farina	" 10	" 10
Nutmegs	" $\frac{1}{2}$	
Sugar, white	" 12	
Tea, black	" 4	" 10
Milk	" "	" 12
INSTRUMENTS.		
Buck's sponge-holder	No. 1	
Cupping tins	" 12	
Lancets, thumb	" 2	
Pocket case	Case 1	
Probangs	No. 12	
Scarificators	" 2	
Scissors	" 2	
Stethoscopes	" 1	
Syringes, self-injecting	" 1	
" enema, 16 oz.		
Syringes, penis (glass)	No. 6	No. 4
" (rubber)		No. 8
Teeth-extracting instruments	Case 1	
Tongue depressor (hinged)	No. 1	
Tourniquets, field	" 8	" 8
" screw	" 2	" 4
Trusses	" 4	" 16
DRESSINGS, ETC.		
Adhesive plaster	Yds. 5	Yds. 20
Binder's board, (2 $\frac{1}{2}$ by 12 inches)	Pieces 8	Pieces 48
" 4 by 17 "	" 8	" 48
Cotton bats	No. 2	No. 4
" wadding	Sheet 1	
Flannel, red	Yds. 4	
Gutta-percha cloth	" 2	Yds. 10
Ichthyocolla plaster	" 5	" 20
Lint, patent	Lb. 4	Lb. 24
" scraped	" 2	
Muslin	Yds. 10	Yds. 20
Needles, 25 ; cotton, 1 spool ; thimbles, 1, in case	No. 1	
Oiled muslin	Yds. 2 $\frac{1}{2}$	
" silk		Yds. 10
Pencils, hair	No. 12	
Pins	Papers 2	Papers 4
Roller bandages, assorted	Doz. 16	Doz. 100
Silk, green (for shades)	Yd. 1	
" surgeon's	Oz. 1 $\frac{1}{2}$	Oz. 4
Splints	Set 1	Sets 4
" Smith's anterior		No. 10
Sponge, fine	Oz. 8	Oz. 16
Suspensory bandages	No. 8	No. 16
Tape	Pieces 4	
Thread, linen		Oz. 8
Tow	Lb. 10	
Towels	Doz. 1	Doz. 4
Twine	Oz. 8	

ARTICLES.	IN MEDICINE WAGON.	[A.]	IN ARMY WAGON.
BOOKS, ETC.			
U. S. Dispensatory	Copy	1	
Surgery, Erichsen's	"	1	
" Smith's Handbook	"	1	
" Sargent's Minor	"	1	
Gun-shot wounds—Longmore	"	1	
Blank books	Copies	2	Copies 8
" " quarto	No.	1	
Case book	No.	1	
Register of patients	No.	1	
Order and letter book	No.	1	
Requisitions, returns, and reports	No.	1	
Ink (2-oz bottles)	No.	2	No. 8
Inkstand, portable	"	1	
Envelopes	"	100	No. 100
Paper, wrapping, white and blue	Quires	2	Quires 2
" writing	"	4	Quires 8
Pencils, lead	No.	6	
Pens, steel, with holders	"	12	No. 48
Portfolio	"	1	
Sealing wax	Stick	1	
Mucilage	Bot.	1	
BEDDING, ETC.			
Blankets	No.	20	No. 60
Blanket cases	No.	8	No. 6
Gotta-percha bed-covers	No.	8	No. 10
FURNITURE, ETC.			
Basins, tin (small)	"	2	
" wash, hand	"	3	No. 8
Bed pans, metal	"	1	No. 8
Buckets, leather	"	2	No. 4
Corks, assorted	Doz.	5	No. 12
Corkscrew	No.	1	Doz. 8
Funnel, ½-pint (glass)	No.	1	No. 4
Grater, nutmeg	No.	1	
Hatchet	No.	1	
Hone	No.	1	
Lanterns, glass	No.	3	
Measure, graduated, 2-oz	No.	1	
" " minim	No.	1	
Medicine measuring glasses	No.	2	
Mill, coffee	No.	1	
Mortar and pestle	No.	1	
Pill boxes	Papers	2	
Pill tiles	No.	1	
Razor and strop (in case)	No.	1	
Scales and weights, prescription	No.	1	
" " shop	No.	1	
Sheepskins, dressed	No.	1	
Spoons, table	No.	2	No. 72
Spatulas, 3 and 6 in	No.	2	
Tumblers, tin	No.	2	No. 6
Urinals, glass	No.	2	No. 4
Vials, assorted	Doz.	2	No. 4

The following articles, in addition to those given in the foregoing table, will be carried in the box of each Ambulance, under the driver's seat, and will be kept there at all times, excepting the hard bread, which will only be placed in the box when there is a probability of an engagement. These boxes will be locked, and the keys kept by the Surgeon-in-Chief of Brigade, who will, by weekly inspections, ascertain that each Ambulance has the articles required, and that they are used for no other purpose than that for which they are intended, viz.: in the Field Hospitals, upon the field of battle, except in cases of emergency, and then only upon the order of the Medical Director of the Corps.

ARTICLES.	IN EACH AMBULANCE.	
	No.	Lbs.
Bedsacks	3	
Beef stock, 2-lb. cans	6	
Buckets, leather	1	
Hard bread	10	
Kettles, camp (assorted sizes)	3	
Lantern and candle	1	
Plates, tin	6	
Spoons, table	6	
Tumblers, tin	6	

JONA. LETTERMAN,
Surgeon U. S. Army, Medical Director.

III.

FIELD HOSPITALS.

HEAD-QUARTERS ARMY OF THE POTOMAC,
MEDICAL DIRECTOR'S OFFICE,
October 30, 1862.

[CIRCULAR.]

SIR: In order that the wounded may receive the most prompt and efficient attention during and after an engagement, and that the necessary operations may be performed by the most skilful and responsible Surgeons at the earliest moment, the following instructions are issued for the guidance of the Medical Staff of this Army, and Medical Directors of Corps will see that they are promptly carried into effect:

Previous to an engagement, there will be established in each Corps a hospital for each Division, the position of which will be selected by the Medical Director of the Corps.

The organization of the hospital will be as follows:

1st. A Surgeon, in charge; one Assistant Surgeon, to provide food and shelter, etc.; one Assistant Surgeon, to keep the records.

2d. Three Medical Officers, to perform operations; three Medical Officers, as assistants to each of these officers.

3d. Additional Medical Officers, Hospital Stewards, and Nurses of the Division.

The Surgeon in charge will have general superintendence, and be responsible to the Surgeon-in-chief of the Division for the proper administration of the hospital. The Surgeon-in-chief of Division will detail one Assistant Surgeon who will report to,

and be under the immediate orders of, the Surgeon in charge, whose duties shall be to pitch the hospital tents and provide straw, fuel, water, blankets, etc. ; and when houses are used, put them in proper order for the reception of wounded. This Assistant Surgeon will, when the foregoing shall have been accomplished, at once organize a kitchen, using for this purpose the hospital mess chests and the kettles, tins, etc., in the ambulances. The supplies of beef stock and bread in the ambulances, and of arrow-root, tea, etc., in the hospital wagon, will enable him to prepare quickly a sufficient quantity of palatable and nourishing food. All the cooks, and such of the Hospital Stewards and Nurses as may be necessary, will be placed under his orders for these purposes.

He will detail another Assistant Surgeon, whose duty it shall be to keep a complete record of every case brought to the hospital, giving the name, rank, company, and regiment ; the seat and character of injury ; the treatment ; the operation, if any be performed ; and the result ; which will be transmitted to the Medical Director of the Corps, and by him sent to this office.

This officer will also see to the proper interment of those who die, and that the grave is marked with a head-board, with the name, rank, company, and regiment legibly inscribed upon it.

He will make out two "Tabular statements of wounded," which the Surgeon-in-chief of Division will transmit within thirty-six hours after a battle, one to this office (by a special messenger, if necessary) and the other to the Medical Director of the Corps to which the hospital belongs.

There will be selected from the Division, by the Surgeon-in-chief, under the direction of the Medical Director of the Corps, three Medical Officers, who will be the operating staff of the hospital, upon whom will rest the immediate responsibility of the performance of all important operations. In all doubtful cases, they will consult together, and a majority of them shall decide upon the expediency and character of the operation. These officers will be selected from the Division without regard to rank, but *solely* on account of their known prudence, judgment, and skill. The Surgeon-in-chief of the Division is enjoined to be especially careful in the selection of these officers, choosing only those who have distinguished themselves for surgical skill, sound judgment, and conscientious regard for the highest interests of the wounded.

There will be detailed three Medical Officers to act as assistants to each one of these officers, who will report to him and act entirely under his direction. It is suggested that one of these assistants be selected to administer the anaesthetic. Each operating surgeon will be provided with an excellent table from the hospital wagon, and, with the present organization for field hospitals, it is hoped that the confusion and the delay in performing the necessary operations so often existing after a battle will be avoided, and all operations hereafter be *primary*.

The remaining Medical Officers of the Division, except one to each Regiment, will be ordered to the hospitals to act as dressers and assistants generally. Those who follow the Regiments to the field will establish themselves, each one at a temporary depot, at such a distance or situation in the rear of his Regiment as will insure safety to the wounded, where they will give such aid as is immediately required ; and they are here reminded that, whilst no personal consideration should interfere with their duty to the wounded, the grave responsibilities resting upon them render any unnecessary exposure improper.

The Surgeon-in-chief of the Division will exercise general supervision, under the Medical Director of the Corps, over the medical affairs in his division. He will see that the officers are faithful in the performance of their duties in the hospital and upon

the field, and that, by the ambulance corps, which has heretofore been so efficient, the wounded are removed from the field carefully and with despatch.

Whenever his duties permit, he will give his professional services at the hospital—will order to the hospital as soon as located all the hospital wagons of the brigades, the hospital tents and furniture, and all the hospital stewards and nurses. He will notify the Captain commanding the ambulance corps, or, if this be impracticable, the First Lieutenant commanding the Division ambulances, of the location of the hospital.

No Medical Officer will leave the position to which he shall have been assigned without permission, and any officer so doing will be reported to the Medical Director of the Corps, who will report the facts to this office.

The Medical Directors of Corps will apply to their Commanders on the eve of a battle for the necessary guard and men for fatigue duty. This guard will be particularly careful that no stragglers be allowed about the hospital, using the food and comforts prepared for the wounded.

No wounded will be sent away from any of these hospitals without authority from this office.

Previous to an engagement, a detail will be made by Medical Directors of Corps of a proper number of Medical Officers, who will, should a retreat be found necessary, remain and take care of the wounded. This detail Medical Directors will request the Corps Commanders to announce in orders.

The skilful attention shown by the Medical Officers of this Army to the wounded upon the battle-fields of South Mountain, Crampton's Gap, and the Antietam, under trying circumstances, gives the assurance that, with this organization, the Medical Staff of the Army of the Potomac can with confidence be relied upon under all emergencies, to take charge of the wounded entrusted to its care.

Very respectfully, your obedient servant,

JONA. LETTERMAN,
Medical Director.

IV.

HEAD-QUARTERS, ARMY OF THE POTOMAC,

CAMP, NEAR CULPEPPER COURT-HOUSE, VA.,

September 30, 1863.

CIRCULAR, } AMBULANCES, ETC. }

I. Ambulances are issued by the Quartermaster's Department for the sole purpose of transporting sick and wounded, upon requisitions approved by the Medical Director and Corps Commander.

II. Officers of the Ambulance Corps will receipt for ambulances, wagons, harness, horses, mules, hospital, and other tents, and all other articles of Quartermaster's property which may come under their charge. They will be held accountable, and will make their returns for the same as required by existing regulations.

III. For all purposes connected with the transportation of sick or wounded, or medical supplies, these officers are subject to the direct control of the Medical Department; but in drawing forage, horses, accountability of property, they are subject to the orders of the Chief Quartermasters of Corps, the same as other officers doing duty in the Quartermaster's Department.

[Signed]

RUFUS INGALLS,

Brigr.-General, Chief Quartermaster.

I concur in the above.

[Signed]

JONATHAN LETTERMAN,

Medical Director, A. P.

TRAINING BOYS FOR CAVALRY SERVICE,

BY BVT. COLONEL E. V. SUMNER,

MAJOR FIFTH CAVALRY.

I SHALL offer no apology for this intrusion upon you, the following suggestions being offered solely for the benefit of the Cavalry Service of the U. S. Army, and with the hope cavalry-men generally, or others having influence, will help the good cause, viz: the improvement of our cavalry, or meet these suggestions with better ones. Improvement is the order of the day in all the professions of life, and we have books, essays, romances, lectures, and ordnance notes, telling us of the efforts of men of ability to perfect the different arms of the service. We who are interested, read the articles, maybe approve them, but can go no farther than wish the theory might be made the practice. There are so many theories that it is hard to say which is the most practical, and we have become as much accustomed to looking in the same direction for instructions in the art of war as for dress patterns. With all due respect for the military talent of distinguished writers, I make the modest assertion, that not one of them ever saw or commanded better or more efficient horsemen than the American Indians of to-day on the plains. A good reason exists for this superiority, and based upon that, I submit the following suggestions, believing that we can learn more from the Indians than from others above mentioned.

On an official visit at Rosebud Agency, on the Sioux reservation, Dakota, I saw an encampment of about twelve thousand Indians. They were there to witness the sun-dance, and were encamped in a circle of about five miles, following a ridge, and enclosing a vast plain. During the day this plain was the riding-school, and the youths of the tribe, of ages from ten to twenty years, well mounted, were performing with great skill various feats of horsemanship.

Knowing from some experience the superiority of the Indians over us in all mounted encounters, and the terror they strike into the hearts of ordinary horsemen by the mere show and dash of their excellent riding, it occurred to me that if we could use the same means we might get even better results for the cavalry of our Army, by the early training of a sufficient number of boys, thereby enabling us to fill our ranks with expert horsemen without any greater expenditure of money than is now paid for almost an inefficient force. The enlisted men of the Army of all corps have been greatly improved of late years in marksmanship, but the constant attendance of the cavalry-man at the target dismounted, has deprived him of the lessons and experience in riding and managing his horse, which were customary for him in former years. Consequently, while the foot-soldier has been improving, I do not believe the cavalry-man is as efficient.

The Indian has lost no time, but has been constantly improving as a warrior; and in learning the use and accuracy of the best arms, never ceases to be a good rider. It is, therefore, useless to talk about competing with such a foe unless we use his own tactics.

It is deemed necessary by the Government to support an Ordnance Corps, composed of scientific men, to keep up with the improvements of the age in arms and equipments, as well as to meet the advances of other nations in all things relating to the profession of a soldier and the use of arms, and probably few officers are willing to admit that we are at all behind other *civilized* nations in the art of war; but experience of late years has most conclusively shown that our cavalry cannot cope with the Indian, man for man. This is not because our men are less brave, but simply because, being horsemen, they are as much intimidated in the presence of better riders as any force would be, armed with the flint locks as against modern rifles.

To remedy this and to put their rules into practice, the material is fortunately not wanting, for in all our large cities there are numbers of boys of proper age who can be as easily obtained for the Cavalry Service as they now are for training ships in the Navy, or for the merchant marine.

Let a favorable point be selected for a school, and enlist boys from ten to fifteen years of age to serve ten years, five at the school and five in the line of the army; being under restraint

and securing an education, they will be better citizens, and cannot fail to be splendid soldiers, good horsemen, as well as good marksmen; superior, in fact, in every way to the men we get now, most of whom are enlisted too late in life even to learn to ride, or to overcome that fear of the horse which in time of action or sudden excitement renders the man unable to properly conduct himself or effectively use his arms.

The poor recruit, and I might say the undrilled cavalry-man generally, with the dread of being thrown from his horse, captured and mutilated, should he even once fire his piece, prefers rather to let go of his rifle, turn his face to the rear, and escape if possible.

One regiment of cavalry composed of thoroughly drilled young men, would be worth any two regiments now in the service, and while it costs the Government no more to keep a good soldier than it does a worthless one, the plan of educating boys, and having all good and efficient men, would be economy in the end.

In a moral point of view, the country can well afford to support and educate the necessary number of boys to keep the regiments in service well supplied, for those who would fill the saddles to the glory and honor of their country, might, under other circumstances, occupy cells to her shame. I do not intend by this to make the Cavalry Service a "house of reform," or a receptacle for refuse matter, but even bad men sometimes make superior soldiers, and we want superiority, even if we have to take bad men.

The expense now incurred in the enlistment of men for the cavalry, many of whom desert as soon as they get West, would go far toward meeting the requirements for the School of Instruction. Indian ponies, or Spanish, would answer every purpose for the mount, and the outlay for their purchase and keeping would be light. Clothing and rations being furnished, the pay should be very small for the first three years, increasing it somewhat for the last two. The first and second classes having been in training for three years would be fit for service in case of emergency, and could be sent to reinforce any regiment, saving the Government the expense and danger now experienced in transferring regiments from one Department to another. Having so small a force of cavalry covering so much country, and scat-

tered as we are by troops and detachments all over the land, the improvement of the *individual* trooper is the great object to be attained, and with a view to that object this paper is respectfully submitted for the thoughtful consideration of any and all who may have the good of the Service sufficiently at heart to help the cause.

Fort Niobrara, Nebraska,

July 29, 1883.

REVIEWS.

LIFE AND LETTERS OF FRANCIS LIEBER.*

In response to a correspondent, Dr. Francis Lieber said, in 1868: "My life will never be written. It consists of too many geological layers." Mr. Thomas Sargent Perry, author of the work entitled "The Life and Letters of Francis Lieber," has not undertaken to locate and analyze the geological layers of which the remarkable life of Dr. Lieber is composed. On the contrary, as he announces in his preface, he only gives us extracts from Dr. Lieber's diary and correspondence, with some additional information concerning his early years. This valuable and interesting work is, therefore, a collection of thoughts, opinions, and observations of one of the ablest thinkers of his day, rather than an account of his life. In fact, as the author says, the volume is a supplement to Dr. D. C. Gilman's two volumes of Lieber's miscellaneous writings.

The letter and diary in this work of 430 pages cover more than fifty years, ending in 1872, and treat of subjects in which men generally, and especially men of our own country, were concerned during that long and eventful period. There is probably no volume of private letters in existence in which so many important questions are treated so clearly, so ably, and so tersely.

The following brief sketch of Dr. Lieber's life is taken mainly from Mr. Perry's work :

Francis Lieber was born in Berlin, March 18, 1800, and was the tenth child in a family of nine sons and three daughters. His father, an ironmonger, having lost the greater part of his property during the war with Poland, could not afford an expensive education for his sons. Prussia was a vast camp in which martial enthusiasm prevailed, and in which military instruction predominated. When eleven years of age, Francis Lieber had become a pupil of the celebrated Jahn, in gymnastic exercises and liberal sentiments, and subsequently entered an institution in Berlin for the education of military surgeons, where he received the benefit of lectures on anatomy, physics, etc. Two of his brothers came home wounded from the campaign of 1814, and his country was preparing for a final struggle with Napoleon. In May, 1815, being then but little over fifteen years of age, Francis joined the army as a private, and gallantly went through the memorable campaign of that year, receiving three wounds. After the close of the campaign he resumed his studies at Berlin, and renewed his association with Jahn, who, as the head of the *Turnen* (Turners), fell under the suspicion of the government. Though but a boy of sixteen, Francis Lieber had been ripened by military experience, and, still under the guidance of Jahn, had become an ardent advocate of freedom. On a vague suspicion that he entertained sentiments not loyal to the government, he was, in 1819, when only nineteen years of age, arrested as a dangerous enemy of the State, and for four months was

* The Life and Letters of Francis Lieber. Edited by Thomas Sargent Perry. Boston : James R. Osgood & Co.

confined in a Prussian prison ; was forbidden to study in a Prussian University, or ever to claim a position as an instructor in Prussia. His final release from prison was accompanied by the threat from the authorities that any return to his so-called former errors would be severely dealt with. Under these disadvantages Lieber pursued his studies as best he could. Perhaps the prohibition concerning a university education was of service in developing a mind and character which might have been stunted by the requirements at that time exacted by the universities of Prussia. This view is supported by a statement of Lieber's at a later period. In a letter to Professor Bluntschli, in 1866, he said : "A remark I made years ago gave great offence. I maintained that with all due praise of German erudition, religion and piety had become mere theology studied in the universities ; that the feeling of right and justice is abandoned for university jurisprudence. In short, that it is *an age when the German placed scholarship above action and the real duties of life.*" He added, subsequently : "A theory is far more important to them than a principle." May not the lapse of time give rise in all universities supported and controlled by government, to the danger of placing scholarship above action and the real duties of life ? If so, it behoves us to guard our national academies at West Point and Annapolis against the insidious danger. In relation to Germany, Lieber added, in the letter of 1866 just cited : "I believe that a change is taking place ; but yet, in a high degree, the German still seeks consolation from the ills and miseries of this life in science and erudition."

Feeling at an early age, as he said at a later date, that his soul was made for liberty as the eye is for the light, Lieber resolved, when not twenty-one years old, to join the Greeks in their struggle against the Turks. He escaped from the paternal government of Prussia by a stratagem, made his way on foot through Switzerland, and, after great hardships, reached Greece to learn by a few months' experience, to use his own language, that the cowardice and incapacity of the Greeks made them unfit to defend or free their country, and that no individual, not even an experienced commander, could assist them. Almost penniless and surrounded by difficulties, he made his way from Greece to Rome, where he disclosed his condition to Niebuhr, the distinguished Prussian Minister, who became his patron and friend, and who wrote of him under date of June 7, 1822 : "He went to Greece as a volunteer and has returned, partly that he might not die of starvation, and partly because he found the boundless corruption of the Moreans, and, withal, their cowardice, insufferable. He is one of the youths of the noble period of 1813, who lost themselves in visions, the elements of which they drew from their own hearts ; and in this terrible contrast between his experience and all that he had imagined—all that impelled him to distant lands—has broken his heart. He is now here in a state of destitution." Niebuhr gave him employment as instructor in his family and as assistant in his own literary labors. While acting in that capacity, and when but twenty-two years of age, Lieber published his first book—"Sojourn in Greece."

The King of Prussia, Frederick William III, passed through Rome while Lieber was there, and learning from Niebuhr that his protégé was afraid of further persecution if he returned home, left assurances that the young adventurer need have no fear of interference, and advised his return. After having spent about a year in the Eternal City, Lieber made his way, partly on foot, back to Germany, reaching Berlin on the 10th of August, 1823. Having been forbidden to study at a Prussian university, he at once communicated with the Minister of Police, expressing his intention to devote himself to the study of the higher mathematics. After exacting assurances of his good behavior, and admonishing him of his errors, the minister granted to Lieber, in the pursuit of his studies, the assistance which was at that time freely bestowed by the State on needy and deserving students. Lieber made the most of his time and

opportunities and gave no good cause of offence; but he was watched and annoyed by the police, and finally, by permission, left Berlin on the 1st of May, 1824, and went to Halle, where he was occupied with his studies until the following August, when he was recalled to Berlin to give information concerning other suspected persons. This he refused to do, and was on the 1st of September again cast into prison, with the threat that he should remain there until he was ready to confess. He was held in prison until the following April, when he was released mainly through Niebuhr's intercession, his liberation being regarded as an unusual relaxation of official severity.

During his imprisonment Lieber devoted himself to study, reflection, and composition. Soon after his release, having secured means of support by employment as tutor in a private family, he published a volume of poems written during imprisonment, on Love, Liberty, Friendship, and other subjects. He was still watched and worried by the police. In 1826 he began the study of the English language, evidently as part of a plan to leave his country. In May of that year he escaped to England, arriving in London May 27, where he lived a year,—the hardest time he tells us of his life,—supporting himself by giving private lessons. During this year, while instructing a young lady in Italian, he fell in love with her, and three years later she became the devoted wife through whose wisdom, faithfulness, and care, the memorials embraced in the volume now before us were preserved. Before leaving Germany Lieber had received from General Von Pfuel, then in charge of the swimming school at Berlin, a testimonial to the effect that he was an excellent swimmer and possessed "the skill and dexterity to conduct a swimming school successfully." He had already turned his eyes toward America, and when an invitation to take charge of a gymnasium and establish a swimming school in Boston was received, he promptly accepted it. This he did, as he wrote his parents, because it enabled him to look forward to the prospect of a more settled and active life and an honorable and useful position in a young republic—a land of progress, where civilization is building her home,—and where there was a field for the application of talent and ability. Four years later he said: "Only here in America have I learned the true value of liberty; and here is the turning-point of my life."

On the 20th of June, 1827, he landed in New York, proceeded to Boston, took charge of the gymnasium, and established the swimming school. Of course, this physical employment did not supersede his intellectual labors. He busied himself from the beginning with literary work, becoming correspondent for German periodicals, and soon commenced to edit an encyclopedia, in which enterprise he made the acquaintance, received the encouragement, and finally the co-operation, of many of the ablest men of our country. This work was of some pecuniary benefit, brought him prominently before the public, and greatly improved his mind. From this time to the end of his life, Lieber's intellectual labors were incessant. Besides attending to the duties of the various positions he was called upon to fill, writing numerous miscellaneous articles, conducting an enormous correspondence with great men on great subjects, he published the following valuable works:

"Political Ethics," "Legal and Political Hermeneutics," "Civil Liberty and Self-Government," "The Origin and Development of the First Constituents of Civilization," "Essay on Property and Labor," "The Laws of Property," "Penal Laws and the Penitentiary System," "Prison Discipline," "The Relation between Education and Crime," "The Pardoning Power," "International Copyright," "The Character of the Gentleman," "The Study of Latin and Greek as Elements of Education," "Great Events Described by Great Historians," "Anglican and Gallican Liberty," "Post Offices and Postal Reforms," "Independence of the Judiciary," and "Two Houses of Legislature."

Judge M. R. Thayer, in his address on the life, character, and writings of Dr. Lieber, says of his principal works: "They embodied in a profound, original, and comprehensive system the principles upon which human society and government repose. They traced to their true sources all the social and governmental relations, and expounded their reasons, their history, their distinctions, and their philosophic significance and results, with a clearness of exhibition, a force of argument, a wealth of learning, a power of illustration, and a high moral purpose never before seen in the same field."

When Dr. Lieber was thirty-four years of age he met Henry Clay, who said to him: "Your reputation is far in advance of your years." But reputation and book-making served to provide only a scanty support for Dr. Lieber's family. He constantly felt the need of a position in which remuneration for his regular services would afford leisure for his many serious tasks. This he found in time, though in an uncongenial region. In 1835 he was appointed to a professorship in the University of South Carolina, at Columbia, where he lived until January, 1857. During that time he wrote the most important books in the list just given. On the 18th of May, 1857, he was unanimously elected Professor of History and Political Science in Columbia College, New York City. Soon after the close of the War of the Rebellion he was placed in charge of the Records of Rebellion, and in February, 1870, he was selected as umpire by the Commission under the Mexican Convention to settle claims.

It is hardly possible to conceive of a life more useful and complete than Dr. Francis Lieber's. Only eight months before it ended, he wrote: "I had intended to give up my professorship,—commission,—every thing, and finish all by May"; and, seven months later, he added: "If I should be free next year, I mean to traverse the country between Basle and Ostend, including Metz and the Rhine, Rheims and Frankfort. I shall call it my Burgundian pilgrimage." On the afternoon of October 2, 1872, while he was sitting quietly listening to his wife, who was reading to him, he gave one cry and immediately died. As Judge Thayer said in the address already cited: "Francis Lieber belonged to the whole world. His thoughts and the course of his studies led him to regard nations only as different members of the same household." The truth is, no question affecting the rights, duties, and obligations of men was so subtle as to elude his grasp or so difficult as to resist his analysis.

A brief citation of some of the views and observations of Dr. Lieber, as given in Mr. Perry's valuable work, may be of interest to our readers.

On the subject of religion, he says: "I do not believe in the apostolic succession. That is, really, a poor—one feels almost tempted to say a contemptible—fiction."

In a letter written in 1847, he said of the English, they are "that nation which is most pervaded by religion. With them religion remained religion. For the German it is a very beautiful thing, or the finest of philosophies; with the French it is either a necessary sacerdotal institute, or coarse priestcraft, or *une chose très spirituelle*; with us it is sectarian dogmatism, or an important social agent, but with the English it permeates all; no one is ashamed of it, and positive belief is the general rule." Of the Puseyites he wrote in 1841: "I think they must become Catholics, at least they ought to do so. They now maintain that the Church is not for man, but man for the Church. The Church is for God's glorification; it is its own end. This is just by seven centuries too late. To find a consistent end in all these matters is impossible. Free will and predestination both lead to absurdity if universally carried out; but this is a little too much. God's glorification! Is that His own glorification? That could have been achieved without man's misery, fall, and redemption. Or glorification by men? So God, an almighty being, creates puny men; they suffer, sin, die, and are damned, all to glorify the Almighty!"

Dr. Lieber maintained that the very idea of justice and truth comes from the heart, and all that Christ teaches comes first of all from the heart or appeals to it. In a letter to his wife, written in 1844, from the field of Waterloo, where he was wounded in 1815, he said : " I plucked flowers, mused, and *prayed*" ; and in 1854 he defined himself as " a Christian who knows the energizing effect of the gospel." Of the Bible, Dr. Lieber said, in 1850 : " Few things to my mind prove more strongly the inherent vigor and self-sustaining truth of the Bible, than that it stands and will stand in spite of the many capricious, ill-judged, and even vehement venomous and sanguinary attacks for which the Great Book has been misused by its misguided friends ; so much so, that with shame it must be confessed, not a single essential progress has been made in the history of advancing civilization,—neither in science, the arts, nor politics, that has not first been impeded by pseudo-religionists. Natural philosophy, geology, political economy, the lightning-rod, vaccination, the disbelief in witchcraft, navigation, the Royal Society of London, taking interest on money, printing, civil liberty, making roads, gardening, astronomy, anatomy, the belief in a western continent, a proper division of universal history, the abolition of the tithe, the political independence of nations, the separation of the Church from the State, the belief in spectres, inquiries into human language, the annihilation of the *jus divinum*,—all, all have suffered from misapplication of the most truth-loving and most truth-preaching of all books." In another connection, he mentions that an old Archbishop of Augsburg, Ulricus by name, said, in a pastoral letter to his priests : " If you squeeze the Bible too hard, it will give you blood instead of milk."

In 1868 Dr. Lieber wrote : " Catholicism, which is no longer a religion but an ambitious institution for uncompromising sway, founded upon idolatized Christianity, is growing fast with us, very fast. No greater danger can be imagined than Romanism, coupled with universal suffrage, or democracy."

Concerning *liberty*, Dr. Lieber says in his correspondence : " Man feels awe at the idea of being merged in the species without individuality. Property is realization of man's individuality. Without it, no individuality ; thence the constant tendency to acquire property. It is acquired differently: by production, labor stored, occupancy, violence, law. Civil liberty is that political condition in which we may do (without compulsion) what ethics allow us to do. Hence I must have the right to be a fool and spend my property badly ; for if not, I should be forced to spend it well, which would not be liberty. Liberty always involves the possibility of abuse." In Prussia he said : " There is not the craving for freedom, for the progress of true citizenship or sound laws, which I love by instinct as a Greek loved his liberty." " I am an American by choice ; others are so by chance." " I came here because persecuted for liberty. The older I grow, the more fervently I love liberty, true and substantial liberty, and the more I hate absolutism, be it monarchical or democratic. All liberty is sharp. In liberty every thing becomes a sharp, decided, quick, and distinctive agent." " I for one believe that the chief glory of this nation is the bold idea of engrafting, for the first time in history, the representative principle upon a confederacy,—and thus creating a union with a complete government, while self-government is left to the States—and breathing from the beginning the spirit of self-expansion into the whole." " No one whatever, and no body of men, is sovereign within the United States. The word does not exist in our law. We in America know of sovereignty only in its international sense." In a letter to Senator Sumner, written June 1, 1864, —during the War of Rebellion—Dr. Lieber said : " I did not agree with you some time ago, when you said in the Senate that the Constitution gives dictatorial powers to Congress in cases like the present war. God and *necessitas*, sense, and the holy command, that men shall live in society and have countries to cling to, and to pray for ;

and that they shall love, work out, and maintain liberty, and beat down treason against humanity,—these may do it, but the Constitution? The simple fact is, the Constitution stops short some five hundred miles this side of Civil War, like ours."

In 1865, Dr. Lieber, in a letter to General Halleck ventured the prediction that "California will yet be the buttress of the bridge over which encircling civilization will pass to Asia whence it came."

Perhaps the most interesting chapter in the book is the one containing Dr. Lieber's views on *Slavery*. It is easy to see, as the author tells us, that the Dr. was a foe of every kind of despotism. Yet he knew that mere denunciation of slavery would not effect its abolition. He, therefore, labored for the desired result by the more efficacious course of attempting to influence public opinion among the people of the South, in the midst of whom he was living. He opened a correspondence with John C. Calhoun on the claim made by slave-holders, of their right to take slaves into new Territories, on the ground that by the Constitution slaves were property, and that the owners of this property, must, under the principles of fair dealing, have the right to remove it as if it were other property. The answer to this, said Lieber, is obvious. Although the law declares the slave to be the property of his master, slavery is not purely an institution of property. It is a *personal* institution also. It is this fact, said he, this indissoluble union of property with person in the deplorable institution of slavery which causes all the difficulty, and which makes it appear as though there was in the North, a desire to interfere with other men's property, when the sole desire is to exclude a personal and most peculiar institution, infallibly bringing consequences in its train, which those that love freedom are unwilling to encounter. Slavery said the Dr. to Mr. Calhoun, "is a state of degradation which disavows the two first elements of all progress and civilization, property and marriage. How can a state of degradation be a good of itself to the degraded or degrader."

Writing to Wade Hampton, in 1858, Dr. Lieber said: "One of the greatest inconsistencies in history is that Southerners, always ready to rail at the Yankee for his love of profit, now stand up before the world and demand the renewal of a deadly sin and a high-handed outrage, on the avowed ground of making more money." That was by taking their slaves as property into the Territories.

In a letter of January 18, 1850, to W. C. Preston, President of South Carolina College, in which Dr. Lieber was a Professor, the Dr. said, slavery is a deciduous institution which always falls at a certain time, as the first teeth are absorbed and give way to the second. The world is against slavery, said the Dr., and under all circumstances it must be abolished. Yet Dr. Lieber deprecated fanaticism in dealing with it as a practical question in our country. "Rational views on slavery—no fanaticism one way or the other" was his platform. It was probably on this account that Charles Sumner charged Dr. Lieber with being an apologist for slavery, and started a quarrel between these two distinguished men and old friends, which lasted until the events of our Civil War served to bring them together again. When Sumner was a young man the Dr. recognized his talent, gave him his friendship, and predicted his greatness. Later in life, when Sumner was in the United States Senate, the Dr. said: "Sumner requires adulation; I am no flatterer."

As early in the Civil War, as December, 1861, Dr. Lieber recorded the opinion that: "Negroes coming into our lines must be and are by that fact free men; for on the one hand the United States cannot become auctioneers of human beings, and on the other hand, our soldiers cannot see in a human being any thing but his humanity." In 1862, he said, let us free, in actual war, as many negroes that come to us as we can. But while he thought a commander might declare servitude abolished in a conquered territory, he did not admit the President's war power to abolish slavery in territories which he did not hold. That, he thought, required legislative power.

The *Irish question*, which has gained prominence in recent years, did not escape Dr. Lieber's notice. Though entirely different from our question of slavery, he, in 1839, pronounced it no less difficult, and said: "As long as Ireland is popish, I do not say Catholic, she will feel uneasy united to England."

"No right without its duties, no duty without its rights" was Dr. Lieber's motto. Right alone, he held, is despotism; duty alone, slavery.

Of *politics*: he said: "We must always guard ourselves against supercilious pride, and not abuse our time because we are disappointed." "Politics are often turbid, but man is made, among other things, to be a citizen; and destroying politics in a lump, running them down as a vile thing, unworthy of a high-minded soul, is denouncing God's own order of things. If the politics of any given time are vicious and low, still they are the politics of our society; and we must add our mite to make that, without which humanity cannot and shall not exist, better, and purer, and healthier."

In a letter to a member of Congress, in 1864, Dr. Lieber said: "Is it not possible to formulate the idea, that government interference in elections is a nefarious thing, into a law? We shall suffer here greatly from the contribution which every Custom-house, Navy-yard, and Post-office man, is assessed to pay. * * The case of an Executive using the power given by the people, and the money taken from them, against a free and correct expression of their opinion, is a monstrosity; and in a polity in which every thing depends on election, an act of high treason against the sovereign. Why not make every officer of the government, when he assumes the office, take an oath that he will not allow himself to be assessed, or otherwise deprived of portions of his salary, or other money he possesses, directly or indirectly by his superiors for election purposes."

On the 2d of March, 1868, Dr. Lieber said in a letter to Judge Thayer: "Grant must be the next President. According to the chemistry of politics he alone will do." In relation to the desire of President Johnson to try the constitutionality of the Tenure-of-office Act, Dr. Lieber wrote Senator Sumner: "A subject or citizen may disobey the law and take the consequences, if he believes before his God he cannot do otherwise. But refusing obedience on the highest moral grounds and calmly taking the consequences, in a simple citizen, is a very different thing from breaking the law for the pretended object of testing it, in a magistrate who has sworn to execute it. To break the law for the purpose of testing its constitutionality is, in a magistrate bound to execute the law, stark rebellion, and philosophically speaking, absurd."

Dr. Lieber held, that in a representative government ministers should be on the spot to be questioned and to defend the Cabinet. In our system, he said, in which the President is as unassailable as an hereditary monarch, the presence of ministers in Congress is imperatively necessary.

Of *personal character* Dr. Lieber said: "Let a man be essentially mean, and he is capable of any thing when an opportunity presents itself. It is this that gives such high value to the idea of the gentleman in the whole English education. Hatred, vengeance, vice, and sin are bad, but the worst, or at least the most dangerous, of all things is meanness." The fact which the Dr. here presents with clearness and force has long been observed as the most essential one in maintaining a proper standard in the Corps of Cadets at the United States Military Academy.

The correspondence in Mr. Perry's volume discloses many important views and facts concerning *military affairs*. Very early in the Civil War Dr. Lieber's counsel was sought by the government. He prepared a pamphlet on "Guerilla Parties," one on "Prisoners of War," and the valuable little work called "Instruction for the Government of the Armies of the United States in the Field." The last was published by the War Department in April, 1863, as General Orders 100, and is still in force.

In a letter to General Halleck, February, 1863, concerning privates paroling themselves, Dr. Lieber pronounced the practice an abuse which amounted to a premium on cowardice. General Buell, commanding the Army of the Ohio in 1861-2, had already forbidden the practice, and denounced the abuse in like terms. So, too, had General Buell issued orders prohibiting the wanton destruction of property, in relation to which destruction the Dr. said : "It does incalculable injury. It demoralizes our troops ; it annihilates wealth irrecoverably, and makes a return to a state of peace more and more difficult."

On account of the "wanton insolence of our enemy," Dr. Lieber favored retaliation in certain cases, but only "an eye for an eye, not ten eyes for one." But the proposition to retaliate by treating rebel prisoners as ours were treated, Dr. Lieber pronounced unworthy of a great people or high-minded statesman, and as one which would sink us to the level of the enemy's dishonor, and he added : "I defy Congress or Government to make the Northern people treat captured Southerners as our sons are treated by them."

In the matter of the power of the President to exercise the actual command of the Army, one of the letters in this volume vouches for the statement that Secretary of War Stanton said to President Lincoln in 1862 : "You must be what the Constitution and laws make you, Commander-in-chief yourself, and gird on the sword." And that at the next Cabinet meeting the famous order for an advance was issued, placing McClellan in the field.

Dr. Lieber's definition of *contraband of war*, in a letter to Secretary of State Fish dated October 8, 1870, is worthy of preservation by the army. He says : "Contraband of war is every thing animate or inanimate deemed at the time necessary for the commission of acts of hostility between belligerents on sea or land, or for the direct pursuit of the war in general, plainly destined for a belligerent or found on its way to one of the warfaring powers. It consists therefore :

"1st. In arms, offensive and defensive, in part or entire ; in men-of-war, war ships or gun-boats, etc. ; and in ammunition in every form and stage of perfection.

"2d. In all those materials or commodities indispensable for the direct pursuit of war at the time, such as horses or mules in numbers indicating their martial destination ; coal in sufficient quantities for steam fleets ; metal for projectiles, whether lead or iron, and for the casting of artillery pieces ; cordage for navies, saltpetre for gunpowder, etc.

"3d. In those things which, though not used directly for hostility, are nevertheless only used for martial ends, such as tents, knapsacks, and military harness."

Some of Dr. Lieber's observations concerning the Mexican War are of interest. For example, he says, in a letter of May 7, 1847 : "While it seems curious to us that a Cabinet war should take place at this time and in this locality, it is not less remarkable to see with what an impulse the citizens of a free Republic fight ; for, however wrong the war was in its origin, the troops—volunteers from all parts of the Union—are brave and excellent. This is a result of the spirit of liberty and the influence of newspapers, for every one, even the most obscure common soldier, knows that the whole nation hears of him and watches him." In the same letter the Dr. predicted that we would receive California, and expressed the hope that one of the conditions of peace would be the right to "build a canal through the Isthmus of Panama, so ardently desired."

Soon after the draft riots in New York City in 1863, at the suggestion of Dr. Lieber, the elevated ground at the intersection of Fourth Avenue and 34th Street was adopted as a strong military position in case of further riots. The Dr. in this instance touched upon an important subject—the defence of cities in riots—which is about to be brought under discussion in the United States Military Service Institution.

In relation to our Indian question, Dr. Lieber said: "The fighting and slaying the Indians is terrible to me; but their gradual extinction I consider desirable, and the quicker the better."

On the subject of *immigration*, which has attained special importance by the influx of Chinese on the Pacific Coast, and the recent landing of "assisted" emigrants on the Atlantic shores, Dr. Lieber, in a letter of April 3, 1870, to Secretary of State Fish, maintained that, "since this peaceful migration of nations characterizes the period we live in, it is our duty to put it under national sway and regulation in every respect, morally and physically; not, indeed, by some two or three hastily passed laws, but by the establishment of a National Board, spanning in its action from the German and Irish in New York to Chinese and Japanese in San Francisco."

Looking forward to reconstruction, Dr. Lieber said in a letter from New York in 1861: "You hear it constantly asked here, 'How can we ever unite again?' Why not," says the Dr.; "it has been done over and over again in history. There will be a scar left; but well-healed scars are no inconvenience, and sometimes they look well on a manly face. The countenance of every nation has its scars."

In 1865, Secretary of War Stanton wanted Congress to authorize for West Point a Professorship of Law and Usages of War on Land, and intended to give the place to Dr. Lieber. The law was not made then, but after the Dr.'s death a Professorship of Law, etc., was created for the Military Academy, and has been filled with marked ability by Dr. Lieber's son, Colonel G. Norman Lieber, Judge Advocate United States Army, one of the founders of the Military Service Institution.

J. B. F.

CAMPAIGNS OF THE CIVIL WAR.

This twelfth volume¹ of the "Scribner Series" gives an account of a campaign that is without a parallel in military history.

The Federal forces moved from the Rapidan on the night of the 3d of May, 1864, with a total "present for duty equipped" of about 120,000 men and 316 guns. They were opposed by the Confederates under General Lee, numbering not less than 62,000 with 224 guns.

On the 7th of June the struggle was suspended for a moment by a truce for bringing in the wounded and burying the dead that had fallen in the last of the general assaults of the Wilderness, Spottsylvania C. H., and Cold Harbor.

The total loss in killed, wounded, and missing was upward of 50,000. Marching by night and fighting by day over forest, and swamp, and river, seldom seeing their opponents, but nearly always in hostile contact, sometimes separated by nothing but piled-up logs, between the crevices of which they sought each other out with bullet and bayonet, clearing the trenches in their front of the dead as the storm of fire swept by only to fill them again on its return, the Federal forces by the middle of June had at last crossed the James in the vicinity of where they stood two years before, and the investment of Richmond and Petersburg began.

The troops under General Butler, numbering originally of all arms about 38,000 with 88 guns, had been directed on Richmond from the south side, and ultimately succeeded in maintaining themselves in a defensive position at Bermuda Hundred, where they were neutralized by the Confederates hastily gathered under Beauregard for the protection of Petersburg. Nearly half of them had, therefore, been called up by General Grant to his assistance before the attack at Cold Harbor.

An assault upon Petersburg was ordered to be undertaken directly by General Butler, to whom the detachment made by General Grant was returned, supported by contiguous portions of the Army of the Potomac, if needed.

¹ "The Virginia Campaign of 1864 and 1865." General A. A. Humphreys. New York: Charles Scribner's Sons.

The result of the operations, however, extending from the 15th to the 18th of June, was to secure an entrenched position partly on and partly adjacent to that of the enemy, who made good his hold upon Petersburg and the roads connected therewith. For a time the Federal forces rested from their labors, having yielded to grave, hospital, and Confederate jail some 11,000 more.

The subsequent endeavors were systematized into regular approaches, and the long siege of the Richmond and Petersburg lines renewed.

Other columns operating from West Virginia and the Blue Ridge upon Lynchburg had not effected the desired junction, and were thrown back upon their depots, while the Confederates again started on their usual rush down the Shenandoah Valley, and developed the usual panic at Washington.

This diversion was, however, finally put an end to by the means and manner set forth in the preceding volume of this series, and as the uproar over the devastation of the valley was great, it may not be out of place to note that General Washington had furnished the example, if one were required, in his instructions some hundred years ago to General Greene: "If the inhabitants will not drive off their stock, destroy it, with hay, grain, etc., since the enemy would take it without distinction or satisfaction." Cornwallis also once ordered Tarleton, "to destroy all the enemy's stores and tobacco between James River and the Daer, as well as provisions or corn collected at a private house, even though there should be no proof of its being intended for the public service."

War cannot be made a charitable institution, nor formulate its procedure upon the Golden Rule.

Next follows the story of the Petersburg mine, very clearly told, and the responsibility for the failure as clearly fixed. It was a lost opportunity, made so evidently by neglect of plain orders and duty. The movement much reminds one of the old-fashioned funeral procession, where the rank brings up the rear of the column and varies directly with the distance from the corpse.

The operations of the Federal force were now directed against both flanks of the Confederate lines. If at Waterloo it was a question of who would pound the hardest, here in Virginia it was also a question of who would stretch the farthest. Against the left of the enemy north of the James and his right south of the Appomattox, one attempt followed another, all meeting with incomplete success, but generally here a little and there a little the Union troops gained ground, and held what they gained, besides making an occasional lunge at the hostile centre to test its tension.

The country was unknown and difficult; the men had become largely infected with raw and unreliable material, and were in most cases now giving but a dull response to the calls of their chiefs.

Behind the Confederates were the roads by Weldon, Danville, and Lynchburg, which linked them to the South, and upon which the Federals operated by raids with partial success, their general movement by the left being one persistent attempt to reach and secure these lines of supply.

The infantry of the Armies of the Potomac and James had sunk to some 52,000 effectives by August of 1864. If the patriotism of the North was still ample, its patience was running low. Now, however, came up from Mobile the thunder of Farragut's fleet. Village and city put forth fresh effort, the pressure upon the recalcitrant States grew heavier, and the winter of 1864-65 was by no means a festal season at the Confederate capital.

They had but little meat, no coffee, no sugar, hardly any thing save corn meal, and that of the coarsest; the clothing scanty and poor, the transportation worn out and deficient, the currency worthless, and the supply of men exhausted.

Before them waited the North, her markets crowded, her factories and workshops busy, her granaries overflowing, with hardly a sign of the war in street or lane, unless in the increase of her industries, still keeping her armies full by conscript and substitute, if not by volunteer, and her credit unimpaired.

As we read the story of the struggle, the strangest thing about it is that it should have lasted so long. But the new dispensation must establish itself upon the thorough wreck of the old.

The spring of 1865 found Sherman at Goldsboro, and Sheridan had been summoned to the Army of the Potomac, if peradventure the energies that burned so brightly among the cedar-brakes that sheltered Early, might also make a way through the swamps and thickets of oaks which covered Gen. Lee.

The Federal forces in Virginia now numbered about 125,000, with 370 guns; and their opponents, distributed over a line of intrenchments some forty miles long, not less than 61,000 men.

Then followed Five Forks, the final and successful assault upon the Confederate position in front of the Sixth Corps, the occupation of Petersburg, the surrender of Richmond, the pursuit of Lee, the capture of his Army, and the collapse of the Confederacy so boastfully inaugurated less than four years before.

In this last month of the struggle the Army of the Potomac fought and marched with all the vigor and endurance that had rendered it so illustrious in the "brave days of old." The infantry pressed hard after the cavalry, and the artillery was out on the skirmish line, where in fact it was generally to be found.

The various assaults were skilfully prepared and gallantly delivered, and the chase so zealously taken up that the Federals are confessed to have seemed "ubiquitous." Finally the leader of the Confederate advance said: "I do not think I can do any thing more," and Gen. Lee is then prepared to admit that nothing is left but surrender.

To tell these things in a compass of some four hundred pages was not an easy task, and to do it with the thoroughness and completeness that so thoroughly distinguish this work, not only has made it a military classic, but also indicates where we are to look for the History of the Army of the Potomac, that is yet to be written, and the writing of which, to quote the closing words of Gen. Humphreys, will render it all the more unnecessary to attempt a eulogy either upon that Army or the Army of Northern Virginia.

But condensed as the present narrative is into an almost Biblical simplicity, there is an occasional gleam through the smoke of battle of a bit of color, belonging by right to the landscape, as when we are introduced to General Warren, "wearing his full uniform," as he rode into the assault of Spottsylvania. And the brief note on page 281, where the writer remedies a very natural omission, seems to contain his personal observation of another like instance with which indeed those glorious days were crowded. The hurrah of the charge, "the rise and fall of a vast musketry fire," the gallop of artillery, still echo among these few leaves, and the notes subjoined will not be found to lack the sparkle that belongs to pendants generally as well as applications that never pertain to mere ornament. *Vide* pages 83 and 115.

To draw an inference is always safe, when not done at right-angles to the original line of traction. The direction is here given, and the reader is left "to fight it out" at his leisure.

In a later volume¹ of some ninety pages, General Humphreys gives an account of the movements of the Army of the Potomac after Gettysburg. If General Lee was

¹ "Gettysburg to the Rapidan." General A. A. Humphreys. New York: Charles Scribner's Sons.

not particularly successful in attacking, he always proved to be abundantly able to take care of himself when attacked, affording his adversary very little margin for the "finishing stroke" the North were so clamorous to see delivered. Early in October he was found to be in motion upon the Federal right, not as it turned out with any intent to vacate Virginia, as some of the Federal generals hastily concluded, but actually still making for Washington.

General Meade, under the stress of conflicting reports, seems to have met with the failure usual in attempts at compromise, but in the consequent manœuvring the skill and gallantry of General Warren are very clearly set forth; nor does the Confederate commander appear to have made more than a moderate use of his initiative. Next follows the passage of the Rappahannock by General Meade, and his establishment between the two rivers, General Lee withdrawing across the Rapidan. It is evident that the Confederates had been educated by Gettysburg into something of their old respect for the Army of the Potomac, which the complications of Chancellorsville had done so much to weaken.

In due course came the attempt of Mine River, aborted through the delay and wandering of the left Federal column. The enemy gained time to concentrate and fortify, and so foiled the well-devised plans of General Meade.

The year wound up with the raid upon Richmond of General Kilpatrick, who contented himself with creating a scare where he might have secured a capture, letting "'I would' wait upon 'I dare not'"—like the old cat in the adage, whose fate has so long been a mystery, though the proverb finds daily application.

General Meade, it seems, desired to establish his Army on the lower Rappahannock, as Burnside had previously done, but he was held to the vicinity of Culpepper C. H., by that Gordian knot of Washington knitting, which General Grant finally disposed of in the Alexandrian way.

But it was the policy which committed him at the beginning to the Wilderness and its results. This spectre of Washington and its strategists haunted, like a nightmare, every preceding General, whose main trouble was more with the pens behind him than the bayonets in front. It needed a miraculously imperturbable man to confront this dread exigency, and the miracle came, not with the spear of Ithuriel so much as the club of Hercules.

General Meade will be better known through this portraiture of his Chief of Staff, and will hold his place despite the objections which it is purposed to meet in the pamphlet "Did General Meade Desire to Retreat at the Battle of Gettysburg?"¹ Perhaps, in a man of abilities, already tried and proved, the loyal obedience that strives to realize to the uttermost the plans of another, is a finer and rarer virtue than appears in any brilliancy of independent achievements. Certainly the capacity that renders the latter possible is seldom united to the devotion that secures the former. The renown of General Meade is equally safe whether considered as the predecessor or lieutenant of General Grant. But it would be unjust and untrue to claim Gettysburg as the sole product of the management of General Meade, for he took up a problem the conditions of which others had done much to shape, and to the solution of which others very largely contributed. There was room at Gettysburg for more heroes than one, and better still, there were heroes for all the room, on the Seminary Ridge no less than on that opposite. But envy attends upon a man in exact proportion to his success, and is a pretty reliable measure of it. Whenever one would gather laurels the sting of the thistle must be tolerated, for wreath and weed grow close together. We know when we see the tares, that "some enemy hath done this," and that the Highest Wisdom has said: "Let both abide the harvest-time."

¹ "Did General Meade Desire to Retreat at the Battle of Gettysburg?" Colonel George Meade. Philadelphia: Porter & Coates.

General Sherman has stated that observations made many years before, when he rode through the theatre of his subsequent campaigns, were of essential service to him in the later time.

It is a fair question how far the information gathered by General Lee, as he edited the memoirs of his father, treating of General Lafayette's operations in the same country which the services of the Confederate chieftain were to render so memorable, was of assistance in enabling him to so effectually preoccupy and control position after position on the road to Richmond by which General Grant was forced to travel. It will be recollected that Cornwallis crossed the James River at Westover, and proceeded to White Oak Swamp, while Lafayette fell back behind the Chickahominy, which the British General passed at Bottom Bridge. Then the former retired over the Pamunkey, and by Spotsylvania County to the Mattapony. Cornwallis abandoned the chase, but General Henry Lee goes on to discuss the measures that he should have pursued in view of the fact that Lafayette was seeking junction with Wayne, north of the Rapidan. He should therefore have been pressed into Orange County to the west, or forced eastwardly over the lower Rappahannock.

Lafayette, however, is described as left to unite himself to Wayne. He then recrossed the Rapidan and moved south upon Cornwallis, ultimately following him through New Kent C. H., and attacking him in the vicinity of Williamsburg.

Much of this marching and countermarching thus detailed by the father was directly over the ground traversed by the son in the campaigns of '64 and earlier, and it is not improbable that the compilation and study of the memoirs alluded to may have furnished their editor, who was an accomplished topographical engineer, with information of the highest importance, little as he then dreamed what a part in his own life these streams, and fords, and roads, and forests were destined to play.

H. W. C.

LIST OF BOOKS FOR REVIEW.

War of the Rebellion. Official Records of the Union and Confederate Armies. Series I. Vol. VIII. (Washington.) Government Printing Office.

From Gettysburg to the Rapidan. The Army of the Potomac, July, 1863, to April, 1864. By Andrew A. Humphreys, Brigadier-General; Chief of Engineers and Brevet Major-General U. S. A.; Major-General Vols.; Chief of Staff, Army of the Potomac; Commanding Second Corps, etc., etc. (New York.) Charles Scribner's Sons. 1883.

Did General Meade Deserve to Retreat at the Battle of Gettysburg? By George Meade, formerly Captain and Aide-de-Camp and Brevet Lieutenant-Colonel U. S. Army. (Philadelphia.) Porter & Coates. 1883.

Annals of Fort Mackinac. By Dwight H. Kelton, Lieutenant U. S. Army. Revised Edition. 1883.

Annual Report of the Adjutant-General, State of New Hampshire. 1883.

The Life and Letters of Francis Lieber. Edited by Thomas S. Perry. (Boston.) James R. Osgood & Co. 1883.

Across the Continent with the Fifth Cavalry. Compiled by George F. Price, Captain, Fifth Cavalry, U. S. Army. (New York.) D. Van Nostrand. 1883.

OUR EXCHANGES.

"*Kongl. Krigsvetenskaps-Akademiens Handlingar och Tidskrift*" (Stockholm), contains, among other professional papers, the following: "*Soldiers' Handkerchief*," (No. 8, 1882,) describes and recommends a handkerchief for military instruction, proposed by a Lieut. of the Swedish Army, several varieties of which have been manufactured. The last series, numbered 4, containing orders and instructions relating exclusively to guard and outpost duty. Along the edges are given sketches illustrating different aspects of outpost duty, with descriptive text, which include the ordinary duties of soldiers on outpost. The corners contain diagrams of the formation of the outpost on the march. In other parts of the handkerchief are given four well-executed pictures of soldiers firing in different positions. These handkerchiefs are printed in fast colors and cost about 15 cents.

"*New Equipments for the Russian Infantry.*" (No. 19, 1882.) "The waist-belt is a narrow, black belt, with black buckle, and supports two stiff cartridge-boxes with sharp edges and covers which open toward the body. No bayonet scabbard is used with the field equipment.

"The knapsack has been abandoned; it was found to be too heavy during the last war, and is replaced by two valises or pouches. One for clothing and ammunition is suspended from the right shoulder, the other for provisions from the left. The pouches and their straps are of gray canvas. A wooden water-flask is suspended from the right shoulder, and rests on the clothing valise. The cape, formed into a roll, has its ends fastened into a small camp kettle, and is carried over the left shoulder. To the rear part of this roll are fastened a piece of shelter-tent, one tent-pole, and a pouch containing one pair of high boots. 80 Linneman spades and 20 small axes are carried by each company in the field. These tools, protected by leather caps, are suspended from the waist-belt in rear of the left hip."

An interesting paper (No. 23, 1882), entitled, "*Annual Report of Progress in Naval Warfare*," was read before the Academy, by Commander Lindmark of the Royal Navy, October 24, 1882. After describing the bombardment of Alexandria, and its results, he discusses the lessons to be drawn from this conflict between armored vessels and forts. * * * "We cannot omit asking these questions: How would the conflict have resulted had the Egyptians possessed and understood the handling of swift torpedo boats furnished with Whitehead torpedoes? Could the English have carried on the contest in the way they did, if a number of such boats had been assembled behind the breakwater, ready to sally forth? Could the anti-torpedo cannon and machine guns of the armored vessels have produced any effect on them, if they had made the attack when the vessels were enveloped in the dense cloud of smoke which was so slowly dissipated? Assuredly not. Under such circumstances it appears to me that the English—even if the general arrangements for the battle remained the same,—must have been forced to place groups of torpedo boats on the flanks of their

³ Translated for the JOURNAL by Lieut. Eric Bergland, Corps of Engineers.

lines, where the view of the battle-field was less obstructed ; these boats always ready to move promptly against those of the enemy whenever the latter attempted an attack, in order to drive them back or run them down.

" The presence of such torpedo boats would scarcely have permitted the English to fight the battle at anchor ; it would have been necessary to keep the vessels in motion, partly to diminish the chance of being hit by a Whitehead torpedo, and partly to move out of the smoke after each broadside, in order to get a better view of the battle-field.

" The attack of a fortified harbor which has at its disposal swift torpedo boats and fixed submarine mines, must therefore be one of the most difficult and dangerous operations which a fleet can undertake, and will scarcely be attempted unless the attacking party is well provided with torpedo boats." * * *

In the discussion of the subject of the unarmored fleet of England, and the steps that have been taken to give her an increased number of cruisers in case of necessity, the author states, that in case of war with the United States it would be impossible for England to increase her navy sufficiently to protect her commercial vessels on the high seas against our cruisers and privateers. He continues : " I have just mentioned America as a possible enemy of England. If, however, we compare the navies of the two countries, it would seem to be absurd for the United States, with her navy almost in ruins, to contemplate a conflict with England. But, even if at present no dark spots appear on their political horizon which forbode an approaching conflict between the kindred nations, yet it is more than probable that the clashing interests of the two countries will sooner or later cause contention between them. Congress has certainly not as yet given any particular attention to the anxiety over the decline of the Navy and mercantile marine of the United States, which now and then is awakened throughout the country. However, in order that something might be done, even the United States have had their Naval Defence Committee, appointed by direction of Congress ; this committee, after approving the report of the "Advisory Board," unanimously recommended the following new organization of the *material* of the Navy, according to which the vessels are to be divided into the following eight classes or types. * * * (Here follows a table enumerating the different classes.) * * *

" Even the most hasty glance at this project for the reorganization of the United States Navy shows that the armored defence occupies a very subordinate place in it, and that the idea of the defensive in the vicinity of the coast has been subordinated to that of the offensive—or the war of cruisers on the high sea. In this respect the Americans have been true to their traditions of the Revolutionary War and the War of 1812 ; and it would seem as if the committee concluded that armored coast-defence vessels hereafter, as during the Rebellion, could be furnished in a comparatively short time when necessity required.

" It must be admitted, that if the United States obtain and maintain such a naval defence as is recommended, and in the future decline to agree to the Declaration of the Treaty of Paris of 1856, they can, notwithstanding the non-existence of sea-going armored vessels, as a naval power, take such a threatening position against England, that the latter country will certainly avoid, as long as possible, a conflict with a State which, with the above means at its disposal, together with its favorable position and enterprising spirit, could deliver an almost fatal blow to the paramount interests of England as a commercial nation. No other nation whose hands are bound by the Treaty of Paris could become as dangerous an opponent to England on the sea as America. For, while the love of adventure and the speculative tendencies of their citizens would give the United States an almost inexhaustible supply of privateers, another nation which could not rely on private enterprise to reinforce its cruisers, would soon see its unarmored fleet yield to England's superiority on the sea." * * *

No. 5, 1883, states, that in the Swedish army contingent for 1882, numbering over 23,000 men, only 0.4 per cent. were unable to read, and 4.5 per cent. unable to write.

"*Recollections of a Visit to the Russian Horse Guards.*" (No. 6, 1883.) * * * "The stables offered nothing of interest. They are narrow and dark, and should be rebuilt. The horses are separated by movable poles, wrapped with straw, and the feed is served in a wooden trough which runs the whole length of the stable in front of the horses, and is divided into two compartments opposite each horse,—a small compartment for oats, and a larger one for hay. The ration consists of about three gallons of oats and ten pounds of hay.

"The hospital stables, on the contrary, deserve the highest praise. There are three,—one for wounds, and the others for diseases, one being for epidemic diseases. The stall floors are asphalt; over this is a loose floor of planks laid across the stall, with intervals between the planks sufficient for the escape of the urine. The planks are laid on slats so that a vacant space is formed between the upper and the asphalt floor. A small water-pipe is laid along the outer wall of the stable, just under the edge of the movable plank floor. This pipe is pierced with small holes throughout its length, through which water percolates and washes the floor. The roof is also provided with capacious ventilators. By these means the air in the stables is kept so pure, that if a person were introduced into one of them in the dark, he could not tell where he was by the sense of smell alone. They seem to be good expedients in the service of hygiene, and worthy of imitation." * * *

In describing the barracks, he says: "The beds are covered with red blankets; and I cannot avoid mentioning my surprise at the high piles of pillows encased in clean linen pillow-cases, which were found on some of the beds. The explanation is simple. Each soldier is furnished with a blanket and *one* pillow, and each man procures as many additional pillows as his means will allow. The number of pillows on the bed merely indicates the wealth of the owner; hence when one sees six pillows piled up to the height of four feet, it does not follow that the owner prefers to sleep in a sitting posture,—on the contrary, he burrows his head between the lowest pair. * * Dinner was just ready when I entered one of the kitchens, and I embraced the opportunity of tasting the different courses. These consisted of boiled fresh beef, white cabbage soup, buckwheat mush, stale black bread, and *quass*. I asked what was served on other days of the week, and was answered that the bill of fare is always the same, except on fast-days.

"The food looked and tasted well, qualities which it ought to have when prepared by cooks who have no temptation to try experiments. Supper consists of cabbage soup or mush. During leisure moments the soldier prepares his own tea." * * *

Journal of the Royal United Service Institution (London, cxix) contains the usual variety of important papers. "*A Steel Bullet-proof Cart-shield for Field Batteries*," is described by Sir S. Baker. "The model represented a cart 6' 6" long by 16" deep, upon two wheels with broad overlapping tires, to protect the spokes from bullets. The bottom of the cart is pierced by a port-hole for the gun; this is closed, until required, by a movable slide, which allows the vehicle to be used for any ordinary purpose. The sponges, water buckets, etc., would be conveyed, if necessary, in the cart, together with a spare wheel. The top or lid of this cart would be closed by two steel doors that would open like those of a wardrobe, and when the cart should be tilted they would rest against the wheels. This is only a modification of the usual method of tilting a cart to empty the contents. Two horses are required to haul the cart, which would weigh about 1,300 pounds. When brought into action, the cart

would be tilted in two seconds in front of the gun. The doors would be flung open and laid against the wheels. The port-slide would fall and the gun muzzle be run through. The shield would then represent an almost perpendicular face six inches higher than a tall man, and ten feet wide, forming a covering of half-inch steel. The horses would be withdrawn to the rear in a line with the shield so as to be under cover." In the discussion which followed the reading of the paper, one officer claimed that the benefit of such a shield at close quarters was counterbalanced by a number of disadvantages at long range, when the men, with the exception of two, would not be protected; that the shield would offer sufficient resistance to burst a percussion shell without stopping it. That it would simply afford a better target for the enemy, and a more costly impediment to the already over-weighted light artillery; and that if any shield could be useful it must be permanently attached to the gun. Lord Chelmsford spoke of the Russian mantelets found in the Malakoff and Redan, which were made of stout rope in wooden frames, and he thought something of that kind might be substituted for the heavy and costly shield proposed. It was generally admitted that something of the kind would be a great protection against the ricochet shots from long-range musketry fire.

"*The Russian Army in 1882*" is an elaborate review of recent changes in the organization, equipment, and instruction, of the Russian Army.

In the infantry, the peace strength of a company is 114, including three officers, two volunteers (candidates for commission), and four privates (without arms) who are employed as officers' servants; the war strength is 244, including one hospital orderly and fifteen privates, without arms, employed as cooks, orderlies, and officers' servants. The training of soldiers, both individually and collectively, as skirmishers, is recognized as the most important part of infantry instruction. Theoretically, skirmishers are kept under control even more than men in close order; no individual initiation being allowed. Bugle sounds are reduced to a minimum. The whistle is used to call attention. The expenditure of ammunition is carefully watched so as to reserve as much as possible for close quarters; seven rounds in two minutes is the maximum allowed until the troops have entered the zone of attack (800 paces from the enemy). The final rush is made at fifty paces from the position. In close order the touch in the ranks is looser than formerly: a hand's breadth between files is now allowed, and an arm's length between ranks. The position of the soldier is easier, and the manual has been simplified. The men are armed with the Berdan rifle, and sergeant-majors' drummers, and buglers carry the Smith & Wesson revolver. Although great attention has been paid to rifles, shooting has not been satisfactory, principally for want of good instructors. The uniform coat of the foot troops, both officers and men, including the Guards, is now made double-breasted, without buttons, and fastening with hook and eye; this is made very large so as to be adapted to all sizes of men. Bandages are worn on the feet instead of socks: in summer, of linen; in winter, of wool. The knapsack has been replaced by a water-proof bag. The authorities aim at reducing the weight of the kit, but as at present worn it weighs nearly seventy pounds; besides the regular "outfit," eighty spades and twenty axes are distributed among the men of each company.

There are six squadrons of cavalry in each regiment, and 145 horses in each squadron. With the exception of the Cossacks, who are horsemen from their childhood, the material for cavalry in point of men is not particularly good. The tendency seems to be to overarm the men and overload the horses. The Cuirassiers are armed with sword and revolver—front-rank men with the lance¹ in addition; the rear-rank men of the hussars and lancers carry a carbine instead of lances; the dragoons carry

¹ There is a party in the Russian Army in favor of doing away with the lance entirely.

a bayonet for the carbine. The present horse equipment has been improved, but is still very heavy (150), and it is calculated that, with the rider and his outfit, the Russian cavalry horse carries a weight of 360 pounds. The system of instruction for cavalry is to be commended, and a better class of horses is being recruited from the Steppes, whose build and action are not very suitable for parade purposes, but evidently fit for the field, being active, enduring, clever, and surefooted. Cossack regiments are brigaded with regulars with mutual benefit. The paces for Russian cavalry are, at the walk, 125 paces in the minute,—equal to three and a half miles an hour; at the trot, 300 paces in the minute, equal to about seven and a half miles an hour; at the gallop, 400 paces in the minute, equal to ten and a half miles an hour; at the charge, 800 paces for the first minute. Much attention has been paid of late, as in Germany, to keeping up a fast gait for a considerable time. Marches are also made with full field equipment for long distances, up to twenty-three miles out and back; hereafter this is also to be done, for several days in succession, toward the end of winter. All cavalry regiments, as well as batteries of horse artillery, are required to have annual steeple-chases in which staff, as well as regimental, officers must take part. Line cavalry officers are now supplied with horses by the State. Fighting on foot is in great favor with Russian cavalry, including the Cossacks, particularly since the introduction of the Berdan musket and carbine. In their tactics first and third, of threes, dismount, seconds remaining mounted as horse-holders. Squadron leaders dismount and take command of the parties on foot. A detachment remains mounted to protect the horse-holders and horses. Dismounted cavalry are trained like infantry to throw up earthworks and charge with the bayonet: in fact, the aim is to make cavalry feel itself able to act independently under all circumstances, and it is hoped that without sacrificing the efficiency of cavalry in its primary employment, that of fighting on horseback, it may be possible at the same time to train it so thoroughly for dismounted action as to place at a Russian general's disposal a great mass of horsemen provided with entrenching tools and fit to measure themselves on foot with the enemy's infantry, whilst equal when mounted to any encounter with his cavalry. The question, as yet undecided, is, whether troops can be made to act with real and equal efficiency both on foot and on horseback. The Russians are preparing to try the experiment on a very large scale. The training for field service is most complete in detail. Officers are taught to be prepared for every contingency of actual warfare. Non-commissioned officers are taught to read maps and to make slight sketches. All things considered, therefore, Russia may well feel confident of her ability to pour, as soon as war is declared, the nine or ten regular cavalry divisions, kept at all times complete, together with their horse artillery over the western or southwestern frontiers, and to support them afterward with further masses of mounted men. There is, in the Russian service, a school of thinkers who discard the idea of employing regular cavalry in the manner hitherto habitual in European armies as quite out of place in these days, and who advocate the use of mounted troops after the American fashion, to which they consider the Cossack nature admirably adapted.

In the paper on "*Infantry Fire v. Artillery Fire*," by Colonel Hale, a comparison is made of the official statistics bearing upon the subject, especially of the Franco-German War. The writer concludes that such statistics can have but little value in determining the future relative power of different kinds of fire, as when "French and Germans alike next meet in a campaign they will come with weapons and projectiles so superior to those employed during the campaign of 1870-71, that the experience of that war will be useless for practical purposes and practical soldiery."

"*The Iron-Clad Train*," described by Lieut. Slade, R. N., is illustrated by diagrams, and is a development of the American plan of 1861, but is intended for

heavier guns than were used in that way then. The operation during the late Egyptian campaign of such a train, carrying a 40-pounder gun to be fired from the railway truck or carriage (which served the purpose of transportation as well) and composed of ten trucks carrying besides the 40-pounder gun, one Nordenfeldt, two 9-pounders, two 7-pounders, and three Gatling guns with crews, escort, ammunition, and materials for repairs, is minutely reported. Subsequently a 9" Armstrong M. L. R. gun was mounted on a special railway truck. The construction of a makeshift carriage followed and the gun was fired several times, without accident except the blowing away of one of the British telegraph wires near the track. "Although the 9" gun was not put to the test of an action with the enemy, yet there can hardly be a doubt that in a future war a gun mounted on this principle, perhaps not as heavy a one as a 9" would be a valuable addition to an Army advancing along a line of railway."

Proceedings of the Royal Artillery Institution (Woolwich), No. 5, vol. xii, contain among other papers, "*Notes on the Embarkation and Debarkation of Horses, etc.*," by Lieut. Clarke, R.A., with full and practical information as to the construction and arrangement of stalls, quarters for the men accompanying them, the general management and details of stable duty. Some interesting facts from actual experience in a storm at sea are given. While the stalls are provided with slings and are padded in front and rear (in English transports) it is found that by giving a horse room to sway backward and forward when the ship rolls he will adapt himself to the motion and be less liable to injury. "When the ship begins to roll the horse tries to swing his body correspondingly, but without altering the position of his feet. But not having room to lean forward and backward at will, from the shortness of his stall, he is *obliged* to shift his feet forward and backward each roll the ship makes. He cannot continue to do this perpetually with each roll of the ship; and the result is he either falls on his knees, or his haunches. The effect of taking away the breast pad was tried so as to lengthen the actual room in the stall. It was eminently successful, and with the exception of the bruising the breast received from the bare wood the horse received no other injuries thereafter. Allow play of about a foot both front and rear of a horse * * say nine feet, including pads. In rough weather the men should as far as possible stand to their horses' heads. Slings should be loosened in rough weather and tightened in calm weather."

Many young American officers would be edified by reading the careful "*Hints to Officers taking over Drafts for India.*" The author, Captain Dalton, R.A., remarks that "they are intended for the benefit of those who have to perform this unpleasant but necessary duty for the first time. I have entered into some very elementary details; but as it so often falls to the lot of a young officer straight from the Academy almost, to take out drafts, I trust they may not be altogether unnecessary."

One of the causes of desertion in the Army of the United States is to be found in the irregular way in which detachments of recruits are occasionally conveyed to their regiments, and the loose professional habits of some officers not infrequently date from the good-luck which seemed to attend their first military service, performed without detailed instructions as to the care of the men and public property *en route*. It is to be regretted that space is not here available to reprint the "*Notes*," much of which, from the moment of receiving the order, including arrangements before leaving the depot, and management of men on the road and during changes of transportation with transfer of property accountability is applicable to our own Army.

The Proceedings of the United States Naval Institute (Annapolis), vol. ix, No. 2, include the Prize Essay for 1883, by Lieut. C. G. Calkins, U. S. N.,

entitled, "*How may the Sphere of Usefulness of Naval Officers be extended in Time of Peace with Advantage to the Country and the Naval Service.*" Substitute the word "Military" for "Naval" in the above title, and no more important subject for the general consideration of the Army can be suggested. No more striking illustration of the similarity of conditions affecting both services can be given than in the description, here noted, of the wants and weaknesses of the Navy.

Lieut. Calkins says: "The want of mental activity and professional earnestness due to the prevailing conditions is shown in various ways. The periodicals published specially for the use of officers of the Army and Navy reflect, to some extent, the mental habits and tastes of their patrons. They frequently contain articles written by naval officers. Some of these productions are signed, and others are anonymous, and many of them possess considerable merit. * * A few writers attempt the solution of practical problems of naval warfare by scientific and modern methods. Others persistently separate science from its applications, or practice from the principles which should regulate it. * * Whether dusty with age, or spiced with scandal, articles which may be assigned to the class of 'old wives' tales' do not belong to the present age, or to the literature of a service which must study the transformation of its methods and material as a condition of its future usefulness and its very existence."

Professor Munroe, U. S. N. A., contributes "*Notes on the Literature of Explosives*," commencing with a brief review of General Abbot's "Report upon Experiments and Investigations to develop a System of Submarine Mines for defending the Harbors of the United States," which Professor Munroe justly terms "by far the most complete and valuable contribution to the study of explosives which has been made in this country."

Ordnance Notes (Washington), Nos. 266, 267, and 269, consist of reprints from the Journal R. U. S. I. (London). In "*Some Cavalry Topics*" (266), Lieut.-Colonel French, 20th Hussars quotes: "The next great war will begin with a fierce and long-sustained cavalry battle. Such is the opinion expressed by German officers of all ranks, and of every branch of the service." The topics comprise observations on the efforts made to perfect the organization of cavalry in Continental Armies; the mission or *rôle* of an independent cavalry division or brigade; instructions issued from Army head-quarters to the commander of an advanced cavalry force; principles which should guide the disposition, etc., of a cavalry force which is to cover the advance of an Army; the organization of a pursuit by cavalry and Continental manœuvres in 1879.

"*Military Punishments in Foreign Armies*" (267) consists of notes on the Belgian code and the military law of the United States. "The Belgian military code has been assimilated as far as possible with the civil code, the definition of crimes being in most cases the same; but the punishment of some crimes, such, for instance, as treason or acting as a spy, is punished more heavily if the criminal is military. Flogging in the Army was abolished by decree of the provisional government on the 7th Oct., 1830, as 'insulting to Belgian warriors and a crime against the dignity of man.' Officers are forbidden to strike the men under any circumstances whatever. In Belgium the purely military punishments are: (1) death by shooting; (2) enlistment in a company of correction (applicable only to enlisted men); (3) military degradation which is equivalent to 'dishonorable discharge,' or 'drumming out,' and involves the loss of rank and all signs of it, and of uniform, incapacity to serve in the Army even as a private soldier, or to wear any decoration or other honorable distinction whatever. Commanding officers have more power than in the English service, and the junior officers are more frequently punished for acts of irregularity. *Traitements de*

reforme is the highest penalty short of cashiering. It is generally used when an officer is considered unfit for the Army, but when the king does not wish to deprive him of all means of supporting life. Officers commanding regiments or detachments cannot reduce non-commissioned officers to the ranks without the sentence of a *consel de discipline*, with a major as president and a non-commissioned officer as one of the members. The commentator (anonymous) from whose paper in the Journal R. U. S. I., these extracts are made, says that: "For the prompt punishment of serious offences the United States code is far behind our own" (British). "On the score of simplicity and celerity, there is no comparison between our field general court-martial and the American general court-martial. The field officer's court seems to be well adapted to meet minor offences. The power of pardon delegated to the convening officer is excessive, though perhaps rendered necessary by the mandatory articles."

Col. Shervinton, D. C. M. G., writes at length on "*Army Transport*" (269), and against the tendency to undue centralization in the general staff of an Army. It is a review of the deficiencies of the English Army in this department, and recommends the organization of a permanent military transport service, which shall not only operate the transportation, but being armed, protect it on occasion as well. No Army in the world has had such varied experience in methods of military transportation as the British, and none seem to have profited so little by their costly experiments. Elephants, camels, oxen, mules, donkeys, and horses, with wagons, carts, and pack-saddles have been tried in turn, but the information gained, in most cases painfully, does not seem to have been crystallized for the use of future English expeditions. The mule, which Col. Shervinton admits to be "the best of all pack-animals, bears a bad character in England, chiefly because he is not understood." The weight of the pack-saddle, and the difficulty of procuring good packers, is a great drawback to British utilization of the mule. The pack-saddle found in the Island of Cyprus, which costs about ten shillings, is highly commended; one man can make three a day, and sore backs are there almost unknown.

In the discussion of this paper, Lord Waveney paid a high tribute to the administration of the United States Quartermaster's Department, showing great familiarity with the details of its operations, and concluding thus: "I do not presume to indicate how our organization may be improved; in fact, we have learned so much to-day, we shall have very little to learn in that matter; but with regard to these facts, especially those relating to the United States Army, I am inclined to think we may find a great deal of instruction from the work of that wonderful force that was composed of such very small and such unaccustomed materials."

As showing the tendency of men commissioned, mounted, armed, and equipped as a part of the Army for transport service alone, "to get above their work," it was related that, during the war in China, they assumed to be light cavalry, and at a ball "a lady, not knowing his uniform, asked a military train officer what service he belonged to; he said, 'we are the military train.' 'What is that?' said she. 'Well,' he replied, 'we are the same as the horse artillery, only without guns.'"

In *Van Nostrand's Engineering Magazine* (New York), for July, are some reprints of interest to artillerymen as well as engineers. Prof. Abel's paper (from *The Engineer*) on "*Electricity Applied to Explosive Purposes*," is one of these. Ordnance officers will find Prof. Hughes' article on "*The Molecular Rigidity of Tempered Steel*" worthy of attention, as also one on "*Hard Armor*," and quartermasters may study with profit "*The Masonry and Carpentry of the Greeks and Romans*," taken from *The Builder*.

The Pennsylvania Magazine of History and Biography (Philadelphia),

contains a translation from a German state paper, being the "*Report of the Court-martial for the Trial of the Hessian Officers Captured by Washington at Trenton, December 26, 1776.*" The report is more in the nature of the result of a Court of Enquiry, called five years after the occurrence, to fix the responsibility for the disaster at Trenton, which is therein wholly ascribed to want of proper precautions on the part of the commanding officer, Colonel Rall, and Major von Dechow, commanding the outposts, both of whom, it will be remembered, were killed at the time. From some of the evidence quoted, it would appear that others of higher rank were not blameless, but escaped official censure.

The Century (July) contains two papers of especial interest to the student of our military history. "*Recollections of the John Brown Raid,*" by a Virginian (Col. Boteler), who witnessed the fight, are graphically told and illustrated,—the portrait of Brown leaving an impression of personal power in the face and great artistic merit in the picture. Stone Pasha's paper, "*Washington on the Eve of the War,*" fitly succeeds the story of the great abolitionist in the same magazine, and furnishes more material for the controversialist and the historian.

FOR THE LIBRARY AND IN EXCHANGE.

Van Nostrand's Engineering Magazine. June, July, August, and September, 1883. (New York.) D. Van Nostrand.

Memorial de Artilleria. (Madrid.) May, June, July, and August, 1883.

The Pennsylvania Magazine of History and Biography. Vol. VII. Nos. 1 and 2. (Philadelphia.) 1883.

Ordnance Notes. (Washington, D. C.) War Department, U. S. A. Nos. 239, 253, 255 to 258, 261 to 265, 274 to 282, 284, 285, 287 to 294, 296, 308.

Kongl. Krigsvetenskaps-Akademiens. (Stockholm.) May, June, and July, 1883.

Giornale Di Artiglieria E Genio. (Roma.) May, June, July, 1883.

The Century. July, August, and September, 1883. (New York.) The Century Company.

St. Nicholas. July, August, and September, 1883. (New York.) The Century Company.

Journal of the Royal United Service Institution. Vol. XXVII, No. 119. (London.) 1883.

Magazine of American History. May, June, July, August, and September, 1883. (New York.) Historical Publication Company.

Proceedings of the United States Naval Institute. Vol. IX, No. 2. (Annapolis.) 1883.

Monthly Weather Review. (Washington, D. C.) War Department. April, May, and June, 1883.

The Army and Navy Journal. (New York.) W. C. & F. P. Church. To date.

The Army and Navy Register. (Washington.) Army and Navy Register Publishing Company.

The Sunday Herald. (Washington.) I. N. Burritt. To date.

OUR CAMP CHEST.

1780-1781.

COPY OF DIARY OF WILLIAM S. PENNINGTON, OF NEW JERSEY,

LIEUTENANT SECOND REGIMENT OF CONTINENTAL ARTILLERY, SERVING UNDER KNOX :
BREVET CAPTAIN UNITED STATES ARMY, SEPTEMBER 30, 1783 ; LIEUTENANT
FIRST REGIMENT UNITED STATES INFANTRY, AUGUST 18, 1784 ;
MEMBER NEW JERSEY LEGISLATURE ; ADMITTED TO THE
BAR, 1802 ; ASSOCIATE JUSTICE SUPREME COURT OF
NEW JERSEY ; JUDGE OF UNITED STATES
DISTRICT COURT FOR NEW JER-
SEY FROM 1815 TO 1826 ;
GOVERNOR OF NEW
JERSEY, 1813
TO 1815.

Contributed to MILITARY SERVICE INSTITUTION by A. C. M. PENNINGTON,
Brevet Colonel U. S. A., Major Fourth Artillery. The original diary on deposit in
Historical Society of New Jersey.

MAY 4, 1780.—Left Newark, my native town, in East New Jersey, after passing three weeks in a very agreeable manner with the ladies in that place, and Captain Betts, Lieutenant Tiffany, and some other gentlemen from the Connecticut line, then lying at Springfield and Westfield, in order to join my company, stationed at the N. J. and Middle Redoubt, in the vicinity of West Point. Arrived that evening at Totaway with my brother Nathan, who attended me on some business that far. We put up that night at Mrs. Godwin's where I had formerly been acquainted, and found the family principally sick, which gave me some uneasiness, as it was a family I much respected. However, after consoling them as much as was in our power, we took some refreshment and retired to rest.

MAY 5th.—Early in the morning, took leave of my brother and proceeded on my journey. Dined at Caheath, and about sundown arrived at Verplanck's Point, King's Ferry, where I found Captain Bannester, Lieutenant Vestill, and some other gentlemen of my acquaintance on duty at that post.

MAY 6th.—After breakfast in the morning, took leave of the gentlemen, and in company with Lieutenants Stone and Marble proceeded on my route, and about three o'clock P.M. arrived at the Middle Redoubt, very much fatigued with my journey, and found Ensign Wells on guard at that post.

MAY 7th.—In the morning was visited by Capt.-Lieut. Hubbel, who commands the company. I sent information (agreeable to orders) to the Adjutant-General of my arrival in camp.

MAY 8th.—Being something rested, I set out to visit some of my acquaintances, and found Mr. Mandeville's and Mr. Nelson's families well. Dined with Colonel Sprout, and then visited Doctor Vinal, whom I likewise found in good health, and then returned to my quarters.

MAY 9th.—Was informed that Captain Cushing, of the First Massachusetts Regiment, being detached some time before from Colonel Millen, who commanded on the lines, surprised Colonel De Lancy's house near King's Bridge, and took three com-

missioned officers and seventeen men belonging to his corps ; the Colonel being absent, lodging out that night with his grand guard.

WEDNESDAY, May 17th.—Lieutenant Marble, who was on guard at this post, was relieved by Lieutenant Smith, of the Fifth Massachusetts Regiment. I went on business to General Howe's quarters. Dined at Doctor Vinal's, and returned to quarters. A report prevailed in camp that Charleston, the capital of South Carolina, is invested by Sir Henry Clinton with the British Army. Some days ago, the Marquis de La Fayette passed here on his way to head-quarters, Morristown. The apple trees are in full bloom, but nothing delightful to be seen in this uncultivated country. It being very dry, and no prospect of rain, our gardens cannot prosper, as expected.

THURSDAY, May 18th.—I spent the day at home reading and writing. A very sudden change of weather. Yesterday it was exceedingly hot, and to-day very cold. I do not feel well, and fear that I have got cold, which is frequently the consequence of a sudden transition from hot to cold.

FRIDAY, May 19th.—This morning we had a small but refreshing shower of rain. I spent the day in quarters.

SATURDAY, May 20th.—This day I went on some business to West Point, dined at Captain Fleming's, and returned to quarters. A gentleman from Morristown says that accounts had been received there, by way of New York, that General Lincoln was in possession of Charleston on the 4th of this month ; that the enemy had bombarded it some days to no effect. I received a letter from Newark ; my friends all well the 8th inst. I was informed by letters from New Jersey that it was reported there that three American privateers had engaged a letter of marque, and carried her into Delaware River short time ago.

SUNDAY, May 21st.—I spent the day in quarters.

MONDAY, May 22d.—Spent the day in quarters, writing some letters to my friends in New Jersey. The season is excessively dry, and no prospect of rain.

TUESDAY, May 23d.—Nothing remarkable transpired this day.

WEDNESDAY, May 24th.—After breakfast I received a billet from Mr. Jos. Currey, who was at Doctor Vinal's quarters, and had just arrived from Jersey, requesting me to come and see him there, as he was something fatigued with his journey. I accordingly went, and spent the day with him and some other gentlemen of the Army ; and after having plenty of *Bub*, was prevailed upon to stay and lodge there, and spent a very agreeable evening with my friends Major Langborn, Doctor Vinal, and Mr. Tripp, and about eleven o'clock retired to rest, where I had a very agreeable discourse with my friend upon a very interesting subject. A large detachment from Nixon's and Glover's brigades marched on to the lines this day, it is supposed, in consequence of an expected visit from Colonel Robinson, or some of the partisans of the enemy.

THURSDAY, May 25th.—Early in the morning I took leave of my friend Mr. Currey, and repaired to quarters. This day Lieutenant Smith was relieved at this post by Lieutenant Crane, of the Sixth Massachusetts Regiment. A report prevailed in camp that a French fleet of seventeen line-of-battle ships, exclusive of frigates, with 14,000 troops on board, are on their route. It is supposed that they are designed against Charleston or New York.

FRIDAY, May 26th.—This day I went on business to West Point ; dined with Mr. Frothingham. I paid a visit to Dr. Henry, and had the happiness to learn from him, that the Rev. Dr. Halsey's family were all well a short time ago, after which, I returned to quarters. The weather still remains excessively hot and dry.

SATURDAY, May 27th.—This day we had a small but refreshing shower of rain. I spent the day in quarters.

SUNDAY, May 28th.—I spent the day in quarters. The weather excessively hot.

MONDAY, 29th—TUESDAY, May 30th.—Each day spent my time in quarters. It is reported that a body of French troops are to land near Rhode Island and march by land to act against New York. This day the ration of flour was augmented to three-quarters of a pound, having been reduced to half a pound the first of this month, in consequence of some unaccountable or unforeseen accident in transporting that article.

WEDNESDAY, May 31st.—This day I dined at Doctor Vinal's. A number of vessels were sent to King's Ferry for the purpose of transporting General Clinton's brigade to Albany. In the course of the day we had several showers of rain. Lieutenant Crane was relieved by Lieutenant Meachem, of the Third Massachusetts Regiment.

THURSDAY, June 1, 1780.—By an express from head-quarters, Morristown, we

learn that General Clinton has carried on his approaches to within seventy yards of Charleston, and that General Lincoln had made a sally and killed two or three hundred men, and was defending the town with his usual courage and address. We likewise learn that His Excellency General Washington has received a Lieut.-general's commission from His Most Christian Majesty, and is appointed Admiral of the White, and Commander-in-Chief of the French troops acting in America, and that he has made a speech to the officers of the Army on that head, and informed them that they are not to do duty with veteran troops, and that they are to take rank from the date of their commissions, when on duty with them.

FRIDAY, June 2d.—In the morning went to General Glover's brigade to see a number of gentlemen of my acquaintance, and from there to West Point, and dined with Captain Reed, and returned to quarters.

SATURDAY 3d, and SUNDAY 4th.—Spent the days in quarters.

MONDAY and TUESDAY.—Ditto.

WEDNESDAY, June 7th.—Went on some business to Mr. Belding's office. Drank tea at Mr. Nelson's and spent part of evening at Mr. Bunn's, and returned to quarters.

THURSDAY, June 8th.—The preceding night there was a small shower of rain. Mr. Meachem and myself spent the afternoon and evening with the gentlemen at the North Redoubt, at backgammon and cards.

FRIDAY, June 9th.—Spent the day in quarters. Mr. Hubbel and Mr. Cushing dined with me.

SATURDAY, June 10th.—In the afternoon I went down to Mr. Mandeville's, and learned from Colonel Sprout that the enemy had, the first of the week, marched out in force into the Jerseys, and attacked Maxwell's brigade at or near Connecticut Farms—which was obliged to give ground to a superior force; and that His Excellency, General Washington, had marched on Wednesday from Morristown, toward the enemy, and that a detachment from the whole army, under command of General Hand, had attacked them at Springfield, and upon General Washington's appearing to support it, they retired to Elizabeth Town, and that on Friday, when the gentlemen who brought the intelligence left the army at Springfield, the enemy were marching out against them from Elizabeth Town, and that they had burnt every house in Connecticut Farms. After hearing the above intelligence, I returned to quarters, very uneasy on account of my friends in Jersey.

SUNDAY, June 11th.—I spent the day in quarters.

MONDAY, June 12th.—I went to General Howe's quarters, where I was informed that on Sunday a British Captain came there from New York, who had some days before concealed himself ill-used by his commanding officer, and that not meeting with the satisfaction he thought himself entitled to, resigned his commission and came to our Army from principles of revenge, and this morning set off for head-quarters in company with two officers of the Army. He brings accounts that two general officers of the enemy were lost in New Jersey, last week, and that Charleston surrendered to Sir Henry Clinton on the 12th of May. The latter is not believed here, as we have accounts of a later date. I dined at Dr. Vinal's and spent the afternoon there with Mr. Currey, who was on his way to Jersey.

TUESDAY 13th, WEDNESDAY 14th, I spent in quarters.

THURSDAY, June 15th.—The gentlemen of the North Redoubt dined here, and spent most of the day at backgammon. Toward evening I took a walk down to Mandeville's. [Pages lost.] Numbers of gentlemen of the Artillery from West Point.

SATURDAY, June 24th.—In the morning I was visited by my friend Currey, who was on his return from New Jersey. He informed me that my friends were all well in that place, and that my father's family had not been plundered by the enemy, as I expected they had. It is plainly demonstrated that the enemy's designs are on this post, as a large number of their shipping is already above Fort Washington, and His Excellency is marching on from New Jersey with part of his Army, for this Department.

SUNDAY, June 25th.—I felt so well that I walked in the morning to Dr. Vinal's. There dined, and drank tea with Mr. Nelson, and returned to quarters, where I had the happiness to hear that Captain Walker had returned to camp from Connecticut. It is reported here that General Washington has marched from Springfield with part of the Army, in consequence of the enemy attempting to take the gorge in the mountain, near Sidman's Cove, and had happily frustrated that manœuvre.

MONDAY, June 26th.—I dined with Captain Walker at the North Redoubt.

TUESDAY, June 27th.—I was informed that after General Washington marched

from Springfield, the enemy attacked the remainder of the Army that was left at that place, under the command of Major-General Green. The contest was something bloody, but the enemy finally retired. Captain Olney, of the Rhode Island troops, who disputed a bridge, lost thirty-five men out of forty, and Captain Thompson, of the 2d Regiment of Artillery, was killed. This day the Connecticut line arrived in this Department and encamped near Buttermilk Falls.

WEDNESDAY 28th, THURSDAY 29th.—The Connecticut line moved over from Buttermilk Falls to Nelson's Point, where I immediately repaired to see my old acquaintances, and had the happiness to see some of them,—Captain Betts in particular.

FRIDAY, 30th.—In the morning I went down to Colonel Sheppard's regiment to give evidence at a Court-martial, and after dining there I went up to the Connecticut line, where I found Lieutenant Tiffany, who gave me some intelligence from Newark, of the ladies.

SATURDAY, July 1st.—I spent the day in quarters.

SUNDAY, July 2d.—In the afternoon I paid a visit at Nelson's Point to the gentlemen of Captains Simonds' and Stevens' companies, who had lately arrived there with the Connecticut line, and from there I crossed the river to West Point, where it was reported from good authority that Monsieur de la Mothe Fouquet, Commander of a French squadron, fell in with an English one, consisting of one seventy-four, two frigates, and ten transports, with 2,500 troops on board, off Cape Hatteras, and captured the whole. It appears that the English were bound for North Carolina, from New York.

MONDAY, July 3d.—In the morning I set off in company with Captain Walker, for New Windsor, where we arrived at 10 o'clock A.M. There I left Captain Walker, and proceeded to New Burrough¹ on some business; from there to Fishkill, Dined at Mr. Van Voort's; visited my friend Currey, and returned to quarters.

TUESDAY, July 4th.—Rained all day; I spent the time in quarters.

WEDNESDAY, July 5th.—Afternoon I went down to Robinson's House, where I had the pleasure to see Dr. Burnet, from New Jersey. He informed me that my father's family were all well. His Excellency, the Commander-in-Chief, with the Army under his immediate command, is at present at Colonel Dey's, near Peyspeak (Passaic?) Falls. It seems the enemy have evacuated Jersey, and remain somewhat more peaceable than some time ago.

THURSDAY, July 6th.—This day I received leave of absence of Colonel Lamb, to go on some business to New Jersey for a few days.

FRIDAY, July 7th.—I made myself ready to perform the journey, but at night Lieutenant Hubbel received information that Mrs. Hubbel was dangerously ill. Influenced by motives of humanity, I agreed to give over my intended journey to Jersey, that Mr. Hubbel might visit her. I received a letter from my father which informed me of the health of the family.

TUESDAY, July 11th.—This morning I received an invitation to dine with Colonel Lamb and Major Bauman, which I accordingly did, and spent a very agreeable afternoon with the gentlemen present, and had the pleasure so see Mrs. and Miss Bauman.

FRIDAY, 14th.—It is generally believed in camp that the French fleet has arrived at Newport, R. I. It is hoped that with this succor, and the daily increase of our army by levies, we shall be able to make a reputable figure this campaign.

TUESDAY, 18th.—I set out this morning for New Jersey, dined at Caheath, and arrived at head-quarters, near Totaway, in the evening, where I lodged in the Jersey Brigade.

WEDNESDAY, 19th.—I visited the gentlemen of my acquaintance at the Park of Artillery this morning, and about 10 o'clock A.M. set out for Newark, where I arrived before sunset, and found the ladies and my father's family in health.

THURSDAY, 20th.—In the afternoon I rode to Elizabethtown, and from there to Conn. Farms, where I lodged at my brother's at night.

FRIDAY, 21st.—I returned to Newark, and spent the remainder of the day.

SATURDAY, 22d.—In the afternoon I rode as far as Second River, in company with Captain Baldwin, and a couple of ladies, and returned to Newark about sunset.

SUNDAY, 23d.—Early in the morning passed on to Barbadoes' Neck, to visit my Aunt Sanford, with intention to return, and set out for West Point in the afternoon, but when I arrived there, I found she had been robbed of effects of considerable value, by a couple of Colonel Wayland's (Moylan's?) dragoons. Immediately followed the ruffians to their quarters at the Little Falls, and had the happiness to detect them

¹ Now Newburg.

and recover the goods from them. I rode to head-quarters, and was detained by the Adjutant-General for the trial of the men, and directed to bring in my evidence on Tuesday; I returned as far as Mr. Parsonette's, Horse Neck, where I lodged at night.

MONDAY, 24th.—Early in the morning rode down to Second River, whence I passed to the Neck, and there breakfasted and dined, and in the afternoon returned to Newark.

TUESDAY, 25th.—Early in the morning I went to Second River, and met my Aunt Sanford agreeable to a promise we made yesterday, and proceeded on to head-quarters for the trial of the robbers. After the trial was over we dined at Colonel Dey's, and rode to the Little Falls; took coffee with Colonel Wayland (Moylan ?), and returned as far as Second River in the evening, where we lodged at night at Captain De Peyster's.

WEDNESDAY, 26th.—After breakfast we passed the river and returned to my aunt's, where I stayed and dined, and then took leave of her, and returned to Newark. The power I suffered my passions to have over me, when I came home upon finding my horse carelessly lost; how I threw my sword down and broke the hilt, etc., is not fit to be recorded, but in the imagination; however, I found my horse after much fatigue.

THURSDAY, 27th.—After the continual fatigue I had suffered ever since I left my quarters, I determined to stay and spend the day in Newark with the ladies, which I accordingly did.

FRIDAY, 28th.—I took leave of my friends in Newark, and, in company with Lieutenant Halsey, proceeded as far as Acquackanonk, on my route for West Point; 11 o'clock A.M. took leave of Halsey, and visited my brother at the New Bridge, and arrived at Clark's Town, where I lodged.

SATURDAY, 29th.—Set off early in the morning, and at 1 o'clock P.M. arrived at Nelson's Point. Lodged at my quarters at the Middle Redoubt this night.

SUNDAY, 30th.—The Massachusetts, Connecticut, and New York lines, are under marching orders. At 4 o'clock P.M., Captain Walker received orders to relieve Captain Simonds' company with the Connecticut brigade. He accordingly detached Mr. Benjamin and myself with part of the company for that purpose, which we did, and the line having marched, we followed after them. It was about 9 o'clock P.M. when we took leave of the neighborhood of West Point.

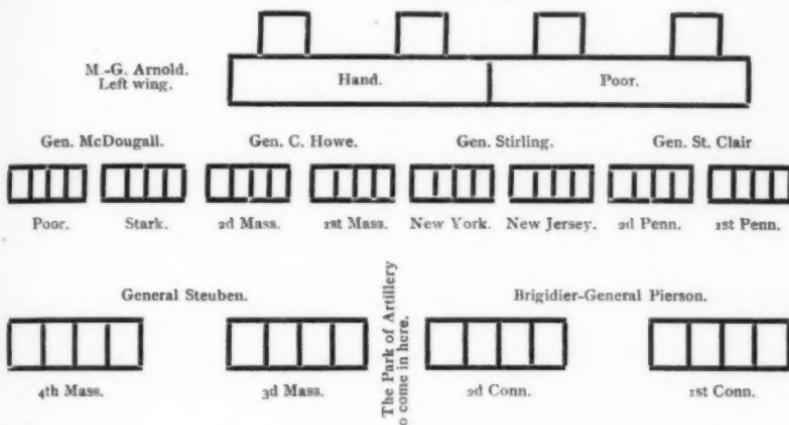
MONDAY, 31st.—At break of day we arrived a little below the continental village, where the line had halted for a short time. Early in the forenoon the line marched to Peekskill, and there halted for the rest of the day and night. This day His Excellency, the Commander-in-Chief, with four brigades, viz.: two Pennsylvania, Generals Hand and Stark, passed the Hudson River at King's Ferry; the Jersey brigade being left to act in that State. The park of artillery likewise passed the river. Nixon's and Glover's brigades are on this ground. The New York line came by water to the bridge, two miles above the ferry. Patterson's and Col. Larnard's are on the march for this place. Half the tents, and the baggage of the officers are ordered to be sent to West Point and there stored. It is supposed that the whole Army is to rendezvous at White Plains; and as the levies have greatly augmented the regiments, we shall have a respectable body of troops in the field.

TUESDAY, 1st August.—We remained on our ground this day. The following is the order of battle and encampment of the army. The Marquis de La Fayette is appointed to the command of the Light Corps, which is ordered to assemble immediately,—Brigadiers Poor and Hand. As soon as the roads are repaired we shall march from the right toward the enemy.

(For "Order of Battle" see next page.)

ORDER OF BATTLE.

Marquis de La Fayette.



Some time ago a considerable body of troops sailed from New York, in consequence of which our Army assembled, and it is supposed it was designed to attack that place; but unhappily for us, the troops have returned to New York.

WEDNESDAY, 2d.—We remained on our ground this day.

THURSDAY, 3d.—The design of the Army's marching on to the river being in a manner answered, the whole Army is ordered to cross the river and return to Jersey, in order to prosecute a former plan. The corps of light infantry to pass in front, the army passes from the right.

FRIDAY, 4th.—Agreeable to the general orders of yesterday, the Army began to pass the river. Our division marched in the morning to King's Ferry, where we waited until evening before we began to pass, which we did in the night, and halted a mile below the ferry. It is reported in camp that a considerable naval engagement had lately happened between the squadrons of the French and English near Rhode Island.

SATURDAY, 5th.—We received orders to march to-morrow morning at 1 o'clock.

SATURDAY, 5th.—We received orders to march to-morrow morning at 1 o'clock.
SUNDAY, 6th.—Agreeable to the order of yesterday, the Conn. division marched about two miles toward Caheath and halted for the day. In the afternoon it came out in general orders that the whole Army was to march at 2 o'clock to-morrow morning: the right wing to take the route to Clark's Town, by Caheath; and the left, by Haverstraw to the same place.

MONDAY, 7th.—Agreeable to orders of yesterday, the whole Army marched, and halted near Clark's Town as directed. In the afternoon orders were issued for the Army to resume their march at 3 o'clock to-morrow morning, and to observe the same order as to-day.

TUESDAY, 8th.—Agreeable to the orders of yesterday, the Army marched and halted at Tappan, where they encamped in order of battle, as far as the ground would admit of it. The Earl of Stirling is appointed to take command of the left wing of the Army (vice General Arnold, who is appointed to the command of West Point and its dependencies). The Marquis de La Fayette has returned from Rhode Island, where he has been some days on public business.

WEDNESDAY, 9th.—The weather has been for some days so intensely hot, and for a long time dry, that it has been very disagreeable marching; but we have had several refreshing showers of rain to-day, attended with thunder; it is to be hoped it will be more comfortable. We are encamped near a pleasant little village, about two miles from the Hudson. The inhabitants are principally low Dutch, though there are some refugees from New York. I am told that there are some very good Whigs here. Silver

and gold is the only established currency in this country, as the Dutch own substantial wealth. We are in the heart of a delightful and plentiful country; but, for the want of specie, cannot reap much advantage from it.

THURSDAY, 17th.—This day I rode down to Closter, a very pleasant part of the country, about five miles from this, where I saw my brother Nathan, who was on duty with the militia at that place. From there I crossed over on to the Hackensack road, where the corps of Light Infantry was encamped. I viewed that camp and returned.

FRIDAY, 18th.—It is generally believed in camp that, Monsieur de la Mothe Fouquet, in conjunction with some American privateers, fell in with a fleet consisting of thirty odd sail of store ships, for the use of the British troops in Canada, at the mouth of the river St. Lawrence, and captured twenty-eight of them, fifteen of which are already arrived at Boston, and the ports adjacent.

MONDAY, 21st.—In the morning I walked to the Jersey encampment, and in company with Captain Wayman, and some other officers of that corps, went to the Stole—a landing on Hudson River where we received our letters. Some time after dining, and on our return, viewed a very remarkable mine in this county, which, as I am informed, was made there by a gentleman some years ago, in expectation of gold or copper, but unhappily he found neither.

The miners began at the foot of a small mountain, and worked their way in horizontally, by blasting the rocks near a hundred feet. About thirty feet from the mouth it parts in two veins, at the extremity of one of which, there is a very good spring five feet deep.

After dining at the Jersey camp, I returned to my own tent, and in a short time found myself very ill. A very high fever; I slept none the following night.

TUESDAY, 22d.—My fever abated some in the morning, and by the advice of Dr. Higgins, a worthy physician, I took a portion of physic which operated very regular. In the afternoon, orders were issued for the whole Army to march at 7 o'clock to-morrow morning.

WEDNESDAY, 23d.—This morning felt much better, as I had rested very easy the preceding night, and my fever mostly off, but very weak. Lieut. Allen was kind enough to give me the use of his horse the day. The whole Army marched agreeable to the general orders of yesterday, and encamped near the English neighborhood. Our march was through a pleasant country, in the course of which we passed the formerly delightful village of Schrälenburg, which was, at the commencement of this campaign reduced to a heap of rubbish by a party of refugees, and runaway negroes, (the inhabitants being mostly friendly to their country) who, after the plundering and conflagration, retired into a block-house on the North River, which was at that time a receptacle for such villains, but it was lately evacuated by them, in consequence of our Army passing the river, and reduced to ashes by a party of our troops.

THURSDAY, 24th.—This morning I viewed our encampment, and found it to be in a very agreeable country. This forenoon, four brigades, viz.: two Penn., New Jersey, and New York, with a large number of wagons marched from here toward Bergen, supposed to be a foraging party.

FRIDAY, 25th.—I spent the day in my tent.

SATURDAY, 26, 1780.—This afternoon rode in company with some gentlemen to the N. Bridge. Visited Captain Blake's family, and found the old lady, and Miss Sally Hoyt well. Mrs. Blake was just recovering from a fever. After tea we returned to camp.

SUNDAY, 27th.—The preceding night and this morning the troops returned from Bergen, Hobuck, Fort Lee, etc., to their camp, at this place. In the course of this manœuvre they have collected a large quantity of forage, and destroyed a large quantity of wood and forage, which had been collected for the enemy, and were so far under the cover of their shipping, that it was impossible to bring any of it off.

MONDAY, 28th.—Duellings has become so prevalent of late that, within a day or two, two gentlemen have been killed and one badly wounded by it. Pistols are the only tribunal, for the most trifling causes at present. It is to be hoped that the bad consequences that have of late attended this mode of trial will have a tendency to prevent the practice of it in future, except in desperate cases.

TUESDAY, 29th.—I spent this afternoon very agreeably with a number of gentlemen of our battalion, on the banks of Hackensack River, drinking milk punch.

In the course of this day's observations, I saw a negro man so old, that the oldest people in this country cannot remember his being a young man, and he does not know his age himself. It is supposed he is a hundred years old. He is a free negro, and supports himself by his industry. He is a weaver by trade, and works at that busi-

ness for a living. He has his perfect sense and memory, and can hear and see as well as any man, and reads very well. It is said he is very religious. We conversed with him some time. He says he has read of civil war, but never expected to see it. I could have wished to converse with him some time, as I think it must be instructive. After making some observations on the Low Dutch manners, we returned to camp.

WEDNESDAY, 30th.—In the afternoon I rode out to Kindergamach (?), a very pleasant little village on the road from Clark's Town to Hackensack, where I had the pleasure to see Mr. Van Troup, and visited Miss Sallie Hoyt, one of my former acquaintances, whence I returned to camp.

THURSDAY, 31st.—I am informed this day, at the Jersey Brigade, that two duels happened yesterday in the Corps of Light Infantry,—one gentleman killed and three wounded.

FRIDAY, 1st September, 1780.—There has been considerable firing this day and yesterday. It appears to be near the Narrows, or Sandy Hook.

SUNDAY, 3d.—Orders are issued this day for the Army to march to-morrow morning, 9 o'clock.

MONDAY, 4th.—Agreeable to the orders of yesterday, the whole Army marched, and encamped at Steenropie, a little village on the west side of Hackensack River, and four miles above the town of Hackensack. It is a very delightful country. Milton's delineation of "Paradise Lost" does not exceed the beauties of it.

TUESDAY, 5th.—This day I visited some of my acquaintances in this place.

WEDNESDAY, 6th.—9 o'clock A.M. set out for Newark, and arrived there at 1 o'clock P.M. I found my friends in general state of health and good-humor.

THURSDAY, 7th.—This morning I took leave of my friends in Newark and returned to camp. On my way I called at Mrs. Sanford's on Barbadoes Neck, and found the family well.

There are various accounts from the Southern Army, but as I at present conceive, nothing can be depended on further than that they had had a severe battle.

The drought has been the most severe this summer, that was scarcely ever known before. I am informed by a gentleman from the Eastward that they were obliged to feed their cattle with hay, and water them from the wells, as the creeks and rivulets were dry. Happily, within a few days past, there has a considerable body of rain fallen, and it is to be hoped will revive some of the fruits of the earth which have not perished with the drought.

SATURDAY, 9th.—Last night died Brigadier-General Poor, of a short illness. He is much regretted by all ranks in the Army, as he was a brave officer and worthy member of society.

Our account from the Southern Army is as follows: When the battle commenced, the militia, who composed our left wing, immediately gave way, by which means the enemy's right immediately encircled our right wing, composed of the Maryland line, and one regiment of militia, who rallied and formed with them. Finding themselves thus circumstanced, they with their usual address, charged the enemy and forced themselves through their lines. The contest was bloody, as they remained fifteen minutes on the charge, but happily brought off two thirds of their number. Upon retiring to take an advantageous spot of ground, they fell in with a body of the enemy's horse, whom they charged with such vigor that the whole, except two or three, were cut off by them. They remain now, in force, about four miles from the field of battle. The baggage and artillery fell into the enemy's hands.

SUNDAY, 10th.—This day I visited my brother at Closter. The corpse of Brigadier-General Poor was interred this afternoon at Hackensack, with all respect due to so worthy a character.

TUESDAY, 12th.—Plundering and marauding have become so prevalent at this time in the Army, that there is no such thing as security of property to the inhabitants. His Excellency, the Commander-in-Chief of the Army, has been pleased to order a soldier, convicted of the above pernicious offence, and condemned by a Court-martial to death, to be executed this afternoon (which order was complied with); and further to declare his intention to show no favor to any person who shall be convicted of so infamous a crime.

WEDNESDAY, 13th.—This morning, His Excellency, the Commander-in-Chief, reviewed the whole Army on their respective brigade parades. He was escorted by a number of Indians—some of whom are said to be Sachems from some of the Six Nations—the Oneidas in particular. This afternoon I rode over to Schrielenburg, and visited Major Gutchins (?), and some gentlemen of his corps. On my return I fell in with a violent shower of rain, which almost drowned me.

SUNDAY, 17th.—This morning, His Excellency, General Washington, set out in company with the Marquis de La Fayette, for Hartford, Conn., where, it is said, they are to meet General de Rochambeau and Admiral de Jarnay, Commanders of the Army and Fleet of our Allies at Rhode Island.

MONDAY, 18th.—Admiral Rodney has arrived at Sandy Hook, with ten sail of the line. In consequence of his leaving the West Indies, the fleet of our allies in that quarter, consisting of eighteen or nineteen sail of the line, immediately followed, and, it is said, they are on our coast at present.

TUESDAY, 19th.—This morning I rode down to Mrs. Sanford's, at Barbadoes Neck, where I breakfasted and dined, after which I passed Passaic River, and went to Newark, where I spent the evening very agreeably with some of the ladies in that place.

WEDNESDAY, 20th.—This morning I took leave of my friends, and, in company with Captain Shipman, returned to our camp, where we found the Army just marching off. We arrived, near sundown, at the ground near Tappan, which we marched from the 23d of last month.

MONDAY, 25th.—A few nights ago, Major Smith, of the militia of this State, had his house burnt by a party of men from a ship lying in Tappan Bay. This day the Army, excepting the Light Infantry, made a grand manœuvre in the vicinity of the camp, and was reviewed by the Hon. Major-General Greene, and received his thanks for their good behavior this day.

TUESDAY, 26th.—An express arrived in camp last night, 11 o'clock, with accounts that General Arnold, who commanded at West Point, was about to give that important post up into the hands of the enemy—but that the plot had happily been discovered. Major André, the Adjutant-General of the British Army, who had been to West Point to negotiate the matter, and on his return was taken up on the lines by some peasants, and carried before His Excellency, the Commander-in-Chief (who accidentally happened in that Department on his return from Hartford). André, in hopes of obtaining his life, discovered the whole. Arnold, finding the plot was like to be discovered, fled immediately to the enemy. Thus, by a chain of circumstances, which nothing but the immediate interposition of Heaven could have offered in our favor, the hellish machinations of our enemy have proved abortive, or, rather, are turned upon their own heads. O Heavens! is it possible that a man of General Arnold's character could be so far lost to every sentiment of honor, virtue, religion, humanity, and love of his country, as to be capable of a treason of the *blackest dye*—which, had it been carried into execution, would have given a vital stab to the American cause. In consequence of the above intelligence, the Pennsylvania line marched for King's Ferry immediately. The whole Army is to hold itself in the most perfect readiness to march on the shortest notice.

SATURDAY, 30th.—Night before last, His Excellency, General Washington, arrived in camp from West Point. His appearance diffused universal joy through the Army. Some time afterward, Mr. André (and one Smith, a private gentleman, supposed to be in the West Point plot), were brought into camp prisoners, escorted by a body of dragoons.

MONDAY, Oct. 2, 1780.—This day 12 o'clock, Major André, Adjutant-General to the British Army, was executed in camp as a spy. He behaved with great fortitude. Although self-preservation and the laws and usages of nations justify, and policy dictates, the procedure, yet, I must conceive, most of the officers in the Army felt for the unfortunate gentleman.

WEDNESDAY, 4th.—This morning I received the disagreeable information that my friend and kinsman, Mr. Jas. Currey, departed this life some time ago. The loss of so worthy a friend, companion, instructor, and guardian of my morals and behavior, must be sensibly felt by a person of my age and inexperience.

FRIDAY, 6th.—General orders issued this day for the whole Army to march to-morrow morning, 9 o'clock.

SATURDAY, 7th.—This day, agreeable to the orders of yesterday, the Army marched. The Jersey, New York, New Hampshire, and Stark's brigades, under the command of Major-General Greene, for King's Ferry. It is supposed they are to lie in the vicinity of West Point. The Massachusetts and Connecticut lines, part of artillery, and Delaware regiment of militia for Totaway. The Pennsylvania line is ordered to join the main Army. We arrived this evening at Paramus, where we encamped. The excessive rain that fell this day made it very disagreeable marching, and the amazing bad roads kept us till late before we arrived at our ground.

SUNDAY, 8th October, 1780.—The Army remained on their ground this day to dry their tents, and are to resume their march to-morrow morning, 9 o'clock.

MONDAY, 9th.—Agreeably to the orders of yesterday, the Army resumed their march, and arrived at their ground, 4 o'clock P.M., near the little village of Totaway, near which are the remarkable Passaic Falls. The whole river falls near 100 feet perpendicular. The corps of light infantry arrived in the vicinity of this place to-day.

TUESDAY, 10th.—General Wayne's Brigade of Pennsylvania troops arrived in camp this day. It is supposed that the other brigade is on its march from West Point.

WEDNESDAY, 11th.—This day the Second Pennsylvania Brigade arrived in camp.

THURSDAY, 12th.—Last evening Colonel Meigs' Regiment of Connecticut troops arrived in camp from Peekskill, where they had been stationed some time past.

SATURDAY, 14th.—Yesterday afternoon I visited Mr. Linsey's family at Harrin's Plains, where I received the disagreeable information of the death of my cousin, the Rev. Dr. Halsey. The loss of a man of his well-known character for learning, virtue, and piety must be sensibly felt by all his relations and acquaintances, but it will undoubtedly impress the most heart-felt sensation of sorrow in the breast of his younger sister, to whom he had acted as a parent and brother. After sympathizing with Miss Sally Halsey on the loss of her brother, and consoling her as much as was in my power, I returned this morning to camp.

SUNDAY, 15th.—Early this morning I left camp with an intention to visit my acquaintances in Newark, in which place I arrived soon enough for morning church, where I with pleasure took my seat. I dined at my father's, and after the afternoon church visited some of my acquaintances. I took lodgings this night in a barrack of hay to secure myself against refugees, who frequently make incursions into this town from Bergen.

MONDAY, 16th.—I spent a principal part of the day visiting my female acquaintances in this place. The ladies in town, to do them justice, are a very sociable, agreeable set of beings, whose company serves to elevate the mind, and in a manner compensate the toils of a military life. The men are much the reverse. Cursed unsociable. Avarice, that bane of society, reigns predominant in most of their breasts; nor will many of them frown at any measures to obtain that god of their affections—gold. One will carry on an illicit trade with the enemies of his country, and another, under pretence of preventing it, will plunder the already distressed families on the lines. A few characters are to be excluded from these pernicious practices.

A little before sunset I left town, and arrived at camp before tattoo-beating.

TUESDAY, 17th.—It is reported in camp that a body of troops to the amount of 1000 men, composed of British Canadians and Indians, have made an incursion from Canada on our frontiers, and have taken Forts Anne and George and captured a part of Colonel Warner's Regiment, and have invested Fort Schuyler, on the Mohawk River. Further, that Colonel Van Schaick, who was at Albany with his regiment, had marched to the relief of Fort Schuyler; that a regiment of New York troops had marched from West Point to support Colonel Van Schaick, and it is expected that the whole York Brigade would soon follow. It is said that that *traitor*, the late *General Arnold*, did, as soon as he arrived in New York, give information of those persons within the enemy's lines whom he had employed to give him intelligence, and by that means threw the unfortunate wretches into disagreeable circumstances. This exertion of villainy exceeds all of his former actions, and will undoubtedly recommend him to the favor of that patron of virtue and honor, the British Commander-in-Chief, who, it is said, has been graciously pleased to give him the rank of a Brigadier-General in his Army.

I have neglected to mention that, some time ago, a Colonel of Militia with a party of his men attacked an escort with 150 prisoners of the Maryland line, who had been taken in the action near Camden and were on their way to Charleston, retook the prisoners, and captured the escort.

WEDNESDAY, 18th.—This day I rode to Hackensack on some business. Dined at Mr. Zabriskie's and returned to camp.

SUNDAY, November 5th, 1780.—I this day returned to camp from a visit to my friends in Newark and a journey to Trenton, in West Jersey. I left this place near a fortnight ago. Some time ago, Captain Ferguson, a noted partisan in Cornwallis' Army in Carolina, was detached from the Army with a body of men consisting of 1300 or 1400. The militia of that country, which was much detached, formed a junction and attacked him in his camp, which they carried, making 810 prisoners, killing 150, and taking 1400 stand of arms. Ferguson was among the killed. It is said that Governor Clinton has made a complete victory over Johnson in the State of New York, near Canojoharie.

Last night Colonel Ogden and Captain Dayton were taken in their beds near Elizabethtown.

MONDAY, 6th.—This morning I joined Captain Moth's company, in consequence of a regimental order issued some days ago for my doing duty in it until further orders.

TUESDAY, 7th.—I spent the day in my tent.

WEDNESDAY, 8th.—Congress has been pleased last month to resolve that the Army, from the 1st of January, 1781, should consist of the following regiments and corps, and no more to be on the establishment, *viz.*: Four regiments of cavalry; four regiments of artillery; two engineer corps: forty-nine regiments of infantry, exclusive of a regiment which is to be retained of the sixteen additional ones. It is to be commanded by Colonel Hargan.

The officers who retire are to have half pay during life, as are all the officers who remain in service until the close of the war.

THURSDAY, 16th.—This day and yesterday the sick and weakly men, and those wanting clothing, marched with the baggage that could be spared to the ground where our winter-quarters will be. This afternoon I rode over to Captain Pike's quarters, near the Little Falls, on some business, where I was persuaded to remain all night, on account of its raining very hard.

FRIDAY, 17th.—This morning I returned to camp.

SUNDAY, 19th.—This day, eleven o'clock, I left this place in order to go to Newark on some business, at which place I arrived at three o'clock P.M. As it was not safe to remain during the night in a place so contiguous to the enemy, I rode to Watsessing (now Bloomfield), to lodge.

MONDAY, 20th.—This morning I returned to Newark, which place I left, four o'clock P.M., and arrived in camp at eight.

TUESDAY, 21st.—This day I dined at General Howe's quarters.

It is said that the park of artillery will take winter-quarters near Blooming Grove, in New York State. In this day's order the Commander-in-Chief informed the Army that he had information that the enemy were about to make a forage manoeuvre in some part of Jersey, and ordered the Army to be in readiness to march at the shortest notice, with two days' provisions ready cooked. In consequence of the above order, the horses of the Army are ordered into camp.

THURSDAY, 23d.—The whole Army is ordered to march to-morrow morning; the general to beat at nine o'clock, the assembly at ten, and the march to commence at eleven.

FRIDAY, 24th.—The march of the Army is postponed till further orders.

SUNDAY, 26th.—The whole Army marches to-morrow morning, ten o'clock. The Corps of Light Infantry is dissolved.

MONDAY, 27th.—Agreeable to the orders of yesterday, the Army marched; the Pennsylvania line for Morristown, the park of artillery for New Windsor, the Massachusetts and Connecticut lines for West Point and its vicinity. Proctor's Regiment of artillery marched with the Pennsylvania line; the artillery, brigaded, remained with their brigades.

We halted this night at Paramus.

TUESDAY, 28th.—This morning we marched and halted at Caheath, and remained the night.

WEDNESDAY, 29th.—This morning we marched for King's Ferry, where we tarried the night.

THURSDAY, 30th.—This morning we parted with our brigades, who marched through the woods on the west side of the river to West Point, except the Connecticut line. The Massachusetts Artillery formed a park, and marched with the Connecticut line to the Continental village and encamped the night.

FRIDAY, December 1st.—This day we marched to Nelson's Point and encamped, whence I passed to West Point, and dined with Colonel Lamb, and visited my acquaintances there, and returned to camp.

SATURDAY, 2d.—This day I visited my acquaintances at Nelson's and Robinson's houses. We marched at two o'clock for Fishkill, where we arrived, ten P.M., and took quarters for the night.

SUNDAY, 3d.—The artillery belonging to the Massachusetts and Connecticut lines being at this place, received orders to join the park of artillery near New Windsor. We accordingly marched for Fishkill Landing, and began to pass the river.

MONDAY, 4th.—This day we finished transporting the artillery past the river.

TUESDAY, 5th.—This morning early we marched to the park. I received orders

to return to Captain Walker's Company, who is at the ferry, there to wait until he arrives. I visited Captain Walker at Fishkill Landing and some of my acquaintances at New Windsor, and returned to camp.

WEDNESDAY, 6th.—This day Captain Walker with his company joined the park; I accordingly joined them, agreeable to the orders I received yesterday from Lieut.-Colonel Stevens.

THURSDAY, 7th.—This day we began to build the huts, for the men to quarter in this winter.

MONDAY, 11th.—This day we finished covering two huts for the men, being only the sixth day since we began them. They are very convenient, with good chimneys, and are twenty feet square. The weather being very moderate for this season of the year, helped to facilitate the work. Should this weather hold, it is to be hoped that both officers and men will be comfortable in quarters in a short time.

WEDNESDAY, 13th.—This day I mounted the park guard.

THURSDAY, 14th.—This morning I was relieved from the park guard by Lieutenant Jackson, of the Third Regiment.

SUNDAY, 17th.—We understand from various accounts that there has been a violent hurricane, attended with a considerable earthquake, in the West India Islands, particularly the Windward ones, as Barbadoes, Guadalupe, etc. The former has not a green thing on it. It extended as far as Jamaica. Some of the islands are partly under water. In some of the most exposed West India Islands, two thirds of the inhabitants perished in the course of the hurricane, earthquake, and inundations.

MONDAY, 18th.—We learn that there has of late a very large embarkation taken place at New York, and it is supposed destined to the Carolinas, for the purpose of supporting Lord Cornwallis, who it is believed is in bad circumstances, and retreating for Charleston. The British troops that landed in Virginia some time ago have left that country and have landed at Cape Fear, in North Carolina, in order to operate in favor of Cornwallis.

TUESDAY, 19th.—We learn that the express passed Fishkill this morning, with accounts that the embarkation which lately took place at New York, under Lieut.-General Knyphausen, had sailed to the eastward and landed at New Haven. It consists of 4,000 men. It is supposed that this expedition was undertaken by the instigation of that infernal rascal *Arnold*, as it is said he serves as a Brigadier-General in the detachment. God send he may meet with treatment worthy so distinguished a character.

SUNDAY, 24th.—By some gentlemen who have lately come out of New York, we learn that the late embarkation under the command of Knyphausen had not yet sailed. Therefore the report of their being at New Haven must consequently be false.

MONDAY, 25th.—Thursday I dined with Captain Porter of our regiment at quarters in the country.

TUESDAY, 26th.—This day I had the honor to dine at His Excellency's General Washington's, table, and of the pleasure of seeing for the first time the celebrated Mrs. Washington. Instead of the usual subjects of great men's tables, such as conquering of worlds, and bringing the whole human race into subjection to their will, or of the elegance of assemblies and balls, and the sublimity of tastes in dress, etc., the simple but very laudable topic of agriculture was introduced by His Excellency, who I think discussed the subject with a great degree of judgment and knowledge. The wine circulated with liberality, but the greatest decree of decorum was observed through the whole course of the afternoon.

SATURDAY, 30th.—This morning I mounted the park guard.

SUNDAY, 31st.—This morning I was relieved from the park guard.

MONDAY, January 1, 1781.—This being New Year's Day, all the officers in the park dined at General Knox's, where we spent a very agreeable afternoon.

This day, Captain Humphreys, aide-de-camp to General Washington, returned to head-quarters from a very hazardous expedition. He left King's Ferry a few days ago with 40 men, and three whale boats under the direction of the noted Captain Buchanan, with a design to surprise and bring off Lieut.-General Knyphausen, who quartered on York Island, but the wind breezing up just as he was ready to carry his design into execution, he found it necessary to pass through York Bay, notwithstanding its being lined with British ships, which he effected, and then passed the Narrows, and going round the south side of Staten Island landed at Perth Amboy, bringing off the whole party safe.

FRIDAY, 5th.—This afternoon I struck my marquee, and moved into my hut; although it is not finished yet, it is much more comfortable than linen walls. The

weather has been very favorable, else it would have been disagreeable lying out until this time.

SATURDAY, 6th.—We have it from undoubted authority, that the Penn. line which lay at Morristown have mutinied, and killed one officer, and wounded several, and have put themselves under the command of a sergeant, and are on their march for Philadelphia, to demand of Congress a redress of their grievances. They proceed with the greatest regularity, and observe the strictest discipline. They have nothing to allege against their officers, and it was merely by accident that those got killed and wounded. The last accounts we have from them are that they were at Princeton, and that General Wayne, and some of the most popular officers kept close in their rear, and that they were polite enough to send a guard every night to General Wayne. The event of this affair is very uncertain, but I think it a very dangerous precedent.

SUNDAY, 7th.—The Commander-in-Chief in yesterday's orders congratulated the Army on some advantages obtained over the enemy by General Sumpter, Colonel Washington, etc., of the Southern Army.

These accounts were transmitted to him by General Greene, who had safely arrived there from this quarter. This day Brigadier-General Knox left this place, it is said on public business with the Legislatures of the Eastern States.

We learn from Princeton, that the Penn. mutineers had taken possession of the college for their quarters, and billeted some of the troops on the inhabitants. That they had displaced their commander, for insulting General Wayne. That Congress had appointed three of their number to speak to them; likewise that they informed General Wayne, should the enemy come out, they would show their country that they were not enemies to it, but that they would engage them with their usual spirit, and return to his command.

THURSDAY, 11th.—We learn from Princeton, that Sir Henry Clinton, Commander-in-Chief of the British Army, sent an embassy to the Penn. mutineers, and informed them that he would make good all their pay due them from the Continent, with other liberal promises of reward, if they would join the King's Army, but they have convinced the world that they have souls superior to it, by giving up the person sent on to negotiate the business into the hands of Brigadier-General Wayne. This circumstance I think must operate much in their favor.

FRIDAY, 12th.—This morning a detachment commanded by Lieut.-Colonel Stevens with six pieces of field artillery was ordered to be ready to march at 11 o'clock, from this place.

SATURDAY, 13th.—The detachment under Colonel Stevens did not march yesterday, but hold themselves in readiness to march at a moment's warning. I understand that the detachment from the Army which they are to act with, will be commanded by Major-General Howe.

MONDAY, 22d.—This day we received information that the Jersey line had followed the example of Penn. in mutinying. In consequence of the above intelligence a detachment of artillery, consisting of three 3-pounders, to be commanded by Captain Stewart, was ordered to parade immediately.

TUESDAY, 23d.—Last night we had a considerable body of snow pay us a visit.

WEDNESDAY, 24th.—The detachment under Capt. Stewart is to march to-morrow morning at daylight. This day I was ordered to join the above detachment, vice Alling.

THURSDAY, 25th.—This day the detachment marched to Smith's Cove, and halted for the night.

FRIDAY, 26th.—This day we marched to Ringwood and joined a detachment of infantry, under the command of Major-General Howe.

SATURDAY, 27th.—This morning the above detachment marched at 1 o'clock, and at daylight surrounded the Jersey encampment near Pompton, where the mutineers were quartered. No other terms were offered to them than to immediately parade, without their arms. General Howe likewise sent them word by Lieut.-Col. Barber that if they did not comply in five minutes he would put them all to the sword; rather than run the risk of which, they surrendered; upon which the general ordered a Court-martial in the field, to try some of their leaders, of whom, *viz.*, *Grant*, *Tuttle*, and *Gilmore* were sentenced to suffer death. *Grant*, from some particular circumstances in his behavior, was pardoned. *Tuttle* and *Gilmore* were immediately executed.

We returned this day back to Ringwood. The mutineers returned to their duty, and received a general pardon. This unhappy circumstance will reflect eternal honor on the character of the line, and sully their former actions. The mild treatment the Pennsylvanians met, by the State appointing a committee to treat with them and

redress the grievances they supposed themselves to labor under, was the principal incitement to the Jersey line to take the steps they have been led into by some turbulent fellows.

The treating with revolted soldiers in any other way than at the point of the bayonet, is, in my opinion, as dangerous a precedent as mutiny itself, and had it been followed with the Jersey line it would probably have created the spirit of mutiny through the Army. I therefore consider it a very happy affair that it is stopped as it is.

SUNDAY, 28th.—This afternoon I visited the Jersey line, and found them very peaceable, whence, with Mr. Henry, I rode to Pons Church to see my cousins there, whom I found in health and happiness, particularly Miss Sallie Halsey.

MONDAY, 29th.—This morning, about sunrise, I set out from Pons Church in order to overtake the detachment on the road to Smith's Cove, but when I arrived at the forks of the road, seven miles above Sidman's, I learned that they had not marched from Ringwood, to which place I immediately repaired, having rode fourteen miles out of my way.

TUESDAY, 30th.—This morning we marched from Ringwood, and an hour before sunset we arrived at Smith's Cove.

WEDNESDAY, 31st.—This day we returned to our quarters at the park, and the detachment was dissolved.

It may be easily supposed that I feel something weary, having had seven days continual fatigue at this season, and there being a large body of snow on the ground.

THURSDAY, 1st February.—This morning I was visited by some of my cousins, from back of Walkill, and in the afternoon I set out with them, and at 8 o'clock arrived at my Uncle Davis', whose family I had not seen these seventeen or eighteen years.

SATURDAY, 3d.—This day I took leave of my uncle's family, and visited some of my acquaintances at Goshen.

MONDAY, 5th.—This day I returned to camp.

Extracts from General Orders, Jan. 30, 1781:—

The General returns his thanks to Major-General Howe for the judicious measures he pursued, and to the officers and men under his command, for the good conduct and alacrity with which they executed his orders for suppressing the late mutiny in a part of the New Jersey line. It gave him inexpressible pain to have been obliged to employ their arms upon such an occasion, convinced that they themselves felt all the reluctance which former affection to fellow-soldiers could inspire. He considers the patience with which they endured the fatigues of the march through rough and mountainous roads, rendered almost impassable by the depth of the snow, and the cheerfulness with which they performed every other part of their duty, as the strongest proofs of their fidelity and attachment to the service, sense of subordination, and abhorrence of the principles which actuated the mutineers in so daring and atrocious a departure from what they owed to their country, to their officers, to their oaths, and to themselves.

The General is deeply sensible of the sufferings of the Army. He leaves no expedient untried to relieve them, and is persuaded Congress and the several States are doing every thing in their power for the same purpose. But while we look to the public for the fulfilment of its engagements, we should do it with proper allowance for the embarrassments of public affairs. We began a contest for liberty and independence, ill provided with the means for war, relying on our own patriotism to supply the deficiency. We expected to encounter many wants and difficulties, and we should neither shrink from them when they happen, nor fly in the face of Law and Government to procure redress. There is no doubt the public will, in the event, do ample justice to men fighting and suffering in its defence. It is our duty to bear present evils with fortitude,—looking forward to the period when our country will have it more in its power to reward our services.

History is full of examples of armies suffering with patience extremities of distress, which exceed those we have experienced, and this in the cause of ambition and conquest—not in that of the rights of *humanity*—of their *country*—of their *families*—of *themselves*.

Shall we who aspire to the distinction of a *patriot army*—who are contending for every thing precious in society, against every thing hateful, degrading in slavery; shall we, who call ourselves citizens, discover less constancy and military virtue than those of ambition? Those who have in the present instance stained the honor of the Amer-

ican soldiery, and sullied the reputation of patient virtue, for which they have been so long eminent, can only atone for their pusillanimous defection by a life devoted to a zealous and exemplary discharge of their duty. Persuaded that the greater part were influenced by the pernicious advice of a few, who probably had been paid by the enemy to betray their associates, the General is happy in the lenity shown in the execution of only two of the most guilty, after compelling the whole to an unconditional surrender; and he flatters himself no similar instance will hereafter disgrace our military history. It can only bring ruin on those who are mad enough to make the attempt, for lenity on any future occasion would be criminal and inadmissible.

FEBRUARY 4, 1781.—The following is inserted at the request of Major-General Howe:

General Howe congratulates the detachment he had the honor to command in the late expedition against the insurgents, upon the signal service rendered by them to their country, in reducing to order and a proper subordination, a set of men who, lost to every sense of rectitude, and in defiance of every moral sanction, had taken measures destructive of discipline, inconsistent with honor and honesty, and in direct violation of every duty they owed to the sacred cause they were engaged in. It is with pleasure he takes this method of conveying to the officers and men of the Artillery, and to the officers and men detached from every line for this command, his warmest approbation of their conduct in general, and particularly for the rapid march they made on their several routes in very inclement weather, and through an extraordinary depth of snow, with an alacrity that demonstrated that the love of their country and zeal for service precede with them every other consideration.

WEDNESDAY, 7th.—Some time ago Lieutenant-Colonel Hull, being detached from General Parsons's command on the lines near West Chester, surprised Colonel de Lancy's Corps of Royal Refugees in their barracks, killed a number, burned their barracks, destroyed their stores, and brought off fifty-two prisoners. Colonel Hull was supported and his retreat covered by the good conduct of General Parsons. Ensign Thompson, of the Sixth Massachusetts Regiment, fell on this occasion—a worthy young gentleman of my acquaintance.

THURSDAY, 8th.—Yesterday I mounted the park guard, and was relieved this morning by Lieutenant Ashton, of the Fourth Regiment.

This afternoon an entertainment was given by Lieutenant-Colonel Stevens, of the Second Regiment. His Excellency, General Washington, the Marquis de La Fayette, and families, and the officers of the park of artillery. His Excellency and the Marquis left us at dark, upon which we immediately opened a ball, and spent the evening very agreeably; but lamented the absence of the ladies of our acquaintance, who would have graced the ball, had they been there, and rendered the entertainment perfectly consummate. Mrs. Stevens was the only lady that graced the assembly.

FRIDAY, 9th.—This afternoon I passed the mountains to West Point.

SATURDAY, 10th.—This day it stormed so severely, I was obliged to remain on the Point.

SUNDAY, 11th.—The snow is too deep to pass the mountains.

MONDAY, 12th.—This day, in company with Mr. Lord, I returned to the park by the way of the river on the ice, it being for the first time this year strong enough to bear.

WEDNESDAY, 14th.—Last night an express arrived in camp from Philadelphia, who brought a handbill with him, which was printed by order of Congress, containing the particulars of a complete victory gained by Brigadier-General Morgan over a body of the enemy consisting of 1,000 men, commanded by the noted partisan, Colonel Tarlton, in South Carolina. The enemy's loss was upward of 100 killed, 500 prisoners, and 200 wounded, two pieces of artillery, baggage, etc., etc. What adds lustre to the action is, that it was performed with an inferior force in the open field. It must be considered an uncommon instance of bravery for raw troops to charge a superior number of disciplined veterans with success.

SUNDAY, 18th.—This day the gentlemen of the regiment dined together at Lieutenant Alling's quarters.

The companies of Light Infantry are ordered to be augmented to fifty men, and to rendezvous at Peekskill ready for a march. A captain's command is ordered to be ready to march from this place. Captain Savage is to command.

MONDAY, 19th.—This day I went to New Marlborough, a little village about ten miles above this, on Hudson River. After dining and transacting a little business, I returned to quarters.

WEDNESDAY, 21st.—This morning the detachment of Artillery under command of

Captain Savage marched from this place for Pompton with two mortars, where it is said that the Corps of Light Infantry is to meet them.

The Marquis de La Fayette is appointed to command the above troops. This evening my brother Nathan arrived at this place from Newark. By him I had the pleasure to hear from my friends.

MONDAY, 26th.—This morning my brother left this place for Newark. This evening Lieutenant Alling left. Arrived here from the Corps of Light Infantry, which he left at Morristown yesterday afternoon, from which place they were to march this morning.

It is said that General Clinton has orders from the British Court to contract his Army, and relinquish either New York or Charleston. It is generally conjectured that it will be the former.

TUESDAY, 27th.—There is an account circulating in camp that Major Lee, commander of a legion at the southward, has surprised a town of the enemy's in Georgia, and carried it with the loss of three men killed. The garrison were many of them killed. The rest he paroled, being so far from our army that it would be attended with difficulty to bring them off. The number the garrison consisted of is not known, but supposed to be 200 or 300.

It is said that *Arnold* is blocked by a French fleet in Virginia, and that Major-General Steuben is acting against him with a very respectable body of militia. It is likewise generally believed in camp that Count d' Estaing has fallen in with a British fleet and captured six line-of-battle ships, and that the *Romulus*, a forty-gun ship, with its convoy consisting of four transports, is captured by some French naval force. These are a train of fortunate circumstances, which seem to forbode much happiness to this country.

WEDNESDAY, March 7, 1781.—It is expected that the Light Corps under the Marquis de La Fayette has by this time formed a junction with the Baron Steuben, and that he will in a short time give a good account of the traitor *Arnold*. His Excellency, General Washington, is on his way to Rhode Island. The Pennsylvania and Jersey lines are acting under the Marquis.

Accounts say that immediately after Tarlton's defeat, 'Lord Cornwallis, in order to recover the prisoners and make an entire conquest of the Carolinas, destroyed his carriages and stores, and mounting as many of his men as he could, two on a horse, made a desperate march into the country; and that General Greene, in order to cover the prisoners and to collect his army (which happened to be much detached), and to draw Lord Cornwallis into the country, had retreated quite into the back parts of North Carolina. It is to be hoped that the spirit of country will excite them to exert every nerve to cut off his supplies, and reduce him to the necessity of making a Saratoga capitulation. This time is big with the fate of the Southern States.

SATURDAY, 10th.—Accounts say that Cornwallis is retreating, and that there are great expectations of his being cut off, or at least severely drubbed.

WEDNESDAY, 14th.—By a gentleman from the eastward, we learn that the French fleet, with the troops on board, have sailed from Rhode Island, and that his Excellency, the Commander-in-Chief, is on his return from that place.

SUNDAY, 18th.—This day I dined at General Knox's.

MONDAY, 19th.—We learn from New York that war was declared at that place by the Court of Great Britain against the States of Holland on Wednesday last.

THURSDAY, March 22, 1781.—This day I walked to New Borough, where I dined with Mr. Pierson, who is a distant relation of mine. He treated me very politely, gave me a general invitation to his house, and offered to advance me any sum of money I thought proper to ask for, as he had received such instructions from my father a few days ago. Such friends as those are very uncommon in these days.

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RIOTS IN CITIES AND THEIR SUPPRESSION.*

BY GENERAL E. L. MOLINEUX,

LATE U. S. VOLUNTEERS.

IN all great centres of population, like the cities of the Old and the New World, the community may be broadly stated to be divided into two distinct groups, or classes—the law-abiding and the lawless, the peaceful and the turbulent. Over the first of these, Civil Authority spreads its mantle of sheltering protection ; upon the second, it keeps a watchful eye, and, if it faithfully fulfils its legitimate functions, holds every disturbing element in strict subjection by the strong arm of moral and physical suppression. The preservation of Law and Order is with us intrusted primarily to the Police as the civil guardians and protectors of the public safety and welfare. Supporting this force is the Citizen Soldier, the volunteer military establishment maintained by the States, and generically known and designated as the National Guard, whose members, however, in assuming the duties of the soldier, lay aside none of the characteristics or obligations of the citizen ; and back of this armed body, again, stands the Regular Army and Navy, whose employment as a Federal force in times of civil commotion or disturbance is governed by Constitutional restrictions. Here, then, is the machinery to which we must look for the defence of our cities in the event of riot—an ever-present and constantly-growing danger. Granting that the combination of these three forces, or either two of them, would prove potent in effectually crushing out any riotous demonstration of whatever magnitude or proportions, we are nevertheless brought face to face with the question whether we are not in grave peril of being lulled into a state of fancied security thereby ; and, further, whether our civil and military authorities are keeping pace with the ceaseless and untiring energy and ingenuity displayed by the restless and implacable associations of Socialists, Communists, and Nihilists that have taken root in our midst, and which, sooner or later, must in-

* Read at a Meeting of the MILITARY SERVICE INSTITUTION, October 11, 1883.

inevitably precipitate a conflict upon us, unless their plans are thwarted and negatived by such a condition of readiness and preparation to meet every emergency on the part of the authorities as shall render any projected attempt to overturn constituted government abortive.

While every other branch of the art of warfare has received serious and exhaustive consideration, while marked advancement has been made in military arms and methods during the past twenty years, the subject of the suppression of street riots and civil disturbances has failed to enlist that attention which its importance merits and demands. We stand to-day, in this regard, practically where we stood a score of years ago. But while those charged with the upholding of the laws have made little or no substantial progress, the assailants of good government have been quick to appreciate, profit by, and take advantage of, every offered opportunity and improvement, until it may be safely asserted that, in the event of an outbreak occurring at this present time, it would be found that the difficulties against which the troops called into service would have to contend had not only been increased many fold by reason of the greater power now possessed by the mob for offensive and defensive operations, but that the dangers attending the necessary movements of the soldiery were correspondingly multiplied. The mob of the future—whether that future be near or remote—may be relied upon to be a most formidable body as to its composition and power for evil. Its elements will be directed by leaders possessed of the secret of the manufacture, and skilled in the use, of the tremendously destructive agencies which chemistry and science have latterly developed. Its membership will comprise not only men experienced in secret devices, but able military leaders. With these men organization and preparation are matters of routine. Working to a greater or less extent in secret, it is, of course, impossible to determine in what direction or from what point the first blow will be struck. The experience of European nations, however,—and notably Russia,—may perhaps measurably be accepted as an indication. Apprehending, then, the dangers likely to arise from this source, what we are called upon to seek after, is the best means of counteracting those dangers with the least loss of life and property. And nothing could be more plain and unmistakable than that, if we are to successfully accomplish the desired result, there must be

a total abandonment of the reliance which has heretofore been confidently reposed in—old means and old manœuvres.

THE COMPOSITION OF A MOB.

In order to a better understanding of this subject, let us briefly consider the composition of a mob or riotous assemblage. Of what elements does it consist? Wherein lies its power for working mischief? What are its inherent weaknesses? A political uprising of a people against its rulers need not be here discussed, since this paper has to deal simply and solely with outbreaks in which Law, Order, and Property are arrayed on the one hand against a faction or class, driven to temporary insanity, it may be, by fancied wrongs, blind fanaticism, the specious arguments of designing demagogues, or uncontrollable passions—an aggregation swayed by the one common impulse of Destruction, totally irresponsible, heedless of others' rights, and blindly reckless of consequences. Whether the *émeute* be precipitated with the purpose of crippling the constituted authorities, encouraging treasonable tendencies, or for the attainment of personal and selfish ends, as in the Draft Riots of 1863; whether it be instigated by race prejudices and motives of revenge, as in the Orange Riot of 1872; or whether it be the outcome of disordered fancies, as in the Lord Gordon "No Popery" Riots, so vividly pictured by Dickens, the responsible leaders, or leader, seldom take active part in the actual disturbances, but from a safe point of vantage direct and control the movements, so far as they can be controlled and directed, of their followers or dupes through their subordinates—men equally able, unscrupulous, and vindictive with their principals. Around these leaders, real and ostensible, rallies the Mob, its nucleus being composed of a greater or less number of ignorant or misguided men, firm in the belief that they have wrongs to redress, which can only be righted by violence, and who follow instructions with the implicit faith born of infatuation. Scoundrels, thieves, ruffians of every grade and of both sexes, swell the ranks—elements ready to join in any undertaking that offers a promise to glut their passions, or affords an opportunity for revenge upon Society, from which they are outcasts. Following these, again, comes a great mass of idlers, persons attracted by curiosity, heedless and unthinking men and women, children and young boys, who, having at the outset no positive

disposition to work mischief, are yet insensibly drawn into the vortex by the novelty and excitements of the situation.

Like an overwhelming freshet, this conglomeration of forces gathers fearful momentum and power as it progresses. Hourly and almost momentarily augmenting in strength, evil begetting evil, and numbers and crowds giving confidence to the cowardly; if unchecked and permitted to gather headway, serious difficulties must attend the endeavors of the authorities to overpower the mob and stay the destructive course of events. Nor are these difficulties of slight moment even in the case of nations possessed of powerful standing armies. Take, for example, France. It has always been a question in the minds of many military men, whether the numerous revolutions in that country would have attained to the proportions of revolutions had the *sans culotte* of Paris been handled properly. Napoleon himself not only asserts this fact, but early in his career he demonstrated the correctness of the proposition by turning the turbulent ebullitions of the fickle populace of Paris to his own personal advantage. The speedy quelling of street warfare is declared by Marmont and other eminent French authorities to be one of the most difficult problems which the soldier is called upon to solve. Indeed, at the outset of his experience, if required to deal summarily with a mob, the officer is brought face to face with a most serious consideration, namely, that of his personal responsibility to the civil law for acts committed in the discharge of his military duty. In England, the employment of the Sovereign's troops against the people is so jealously guarded and hedged about with legal restrictions, that the soldiery has frequently been compelled to patiently submit to outrageous insult from rioters until the Riot Act has been publicly read by a magistrate. This guardianship extends even to her colonies, the Faneuil Hall Riot in Boston being cited by way of illustration, where, in 1770, the soldiers, under strong provocation, having fired upon those opposing them without this civil proceeding having been complied with, were indicted, tried, and punished. Although the laws of the State of New York, as well as those of other States, wisely give wide discretion to the police force and the military, yet they do not relieve the officer from liability to prosecution in civil and criminal suits, as above noted. Called upon to operate against a force, which can destroy without responsibility, while his every

personal and official act is subject to the strictest legal scrutiny, fortunate will the commanding officer be if suits and annoyances, arising out of the discharge of his duty, do not follow and trouble him for years after. The position in which he is placed is, to say the least, an unenviable one—to accomplish his work with the certain knowledge that not a brick or a stone can be displaced for military purposes, or an injury inflicted upon any individual, without legal quibbling for a full accounting; while should a stray shot unfortunately strike an innocent, or supposedly innocent, spectator in the throng of women, children, idlers, and others who are invariably crowded to the front in such an emergency, and behind whom the vicious and dangerous elements of the mob take refuge, his prized reputation may be darkened, perhaps forever. With the civil aspect of this subject, however, it is unnecessary that we should deal further than this brief allusion, the province of the present paper being the discussion of the question from a military stand-point.

THE DEFENCE OF CITIES IN TIME OF RIOT.

In considering the defence of cities in time of riot, New York may properly be taken as an illustrative example. Cosmopolitan as to its population, and possessed of unbounded wealth, its banks, public institutions, stores, and residences offer a tempting bait to the lawless element always to be found in its streets; and which, if holding it in undisturbed possession for but a few hours, could not only enrich themselves, but inflict incalculable loss upon property-owners. Guarding these vast material interests we find the Police—as well-disciplined, able-bodied, and organized a force as it can perhaps be hoped to secure so long as appointments to its ranks are made a matter of political preferment. The extent of territory, however, which the force is required to patrol is so great, that in case of serious trouble the small reserve that could be called upon would probably be found entirely inadequate. Still the preventive power of the Police is undoubted, and has hitherto proved ample to hold in check and overawe any serious concert of action on the part of mobs, pending the co-operation of the National Guard.

This latter body—the armed reserve—comprises in the two divisions of the National Guard located in New York and Brooklyn, a force, in round numbers, of 5,000 officers and men, composed of young, active, and enterprising citizens, fairly encouraged and

maintained by the State and County authorities, and, taken as a body, well disciplined. There can be no reasonable doubt but that this force is to be relied upon as an efficient military organization, so far as street warfare of the *Past* is concerned. But what of the present and of the future? The inquiry is pertinent. Are these bodies of Police, civil and military, prepared to cope with the changed conditions of affairs, and to meet the Mob of the Future on equal terms?

The comparative ease with which riots in this city have hitherto been suppressed has unquestionably engendered a contempt for the *canaille* on the part of the sworn protectors of the public peace, and created a false feeling of security among property-holders. The improvements made in arms of precision, and the success attending the instruction of the National Guard in marksmanship, have further tended to increase this feeling of over-confidence. But however admirable these advantages may be in field service, careful thought will demonstrate that in street-riot duty, at close quarters, long-range skill will avail but little, and that the old-time shot-guns, pistols, stones, and missiles will more than relatively hold their own with the improved weapons in destructive force at close quarters, to say nothing of Dynamite. It is plainly evident, therefore, that there is crying need for the proper instruction of the National Guard to meet the duties which they are likely to be called upon to perform; and that the professional military officers of your Institution may profitably give attention to this subject. New York must of necessity rely upon its military force for its protection. For even were a call to be made upon the General Government for assistance, the fact remains that the regular forces of the Army and the Navy available in the immediate vicinity are so small in numbers that they would be almost entirely if not quite absorbed in guarding Federal property, such as the Sub-Treasury, Custom-House, Post-Office, Navy Yard, etc.

The power of a mob for working mischief consists:—

1. In its possession of arms and ammunition;
2. In its ability to cut off the supply of light—gas-works, etc.;
3. In its gaining control of the water supply;
4. In the employment of dynamite and kindred explosives;
5. In having recourse to barricades, for offensive or defensive operations; and,
6. In the interruption of telegraphic and other communications.

SOURCES FROM WHICH ARMS MAY BE OBTAINED.

The first-named, in the case of an extensive and well-organized *émeute*, it is safe to assume the mob would be well provided with. Any individual, under existing conditions, can purchase arms and ammunition *ad libitum*, without inquiry or question. This fact suggests the query, whether it would not prove a profitable safeguard were gunsmiths and dealers in arms required by statute to keep a record of their sales, with names and addresses of purchasers, etc. Such a record, in case of threatened trouble, might afford a valuable clue to the authorities in the matter of prevention. But beyond the individual ownership of weapons, the practically exposed and defenceless condition of the majority of the National-Guard armories offers a tempting field of operations to the lawlessly disposed. For even though failing to possess themselves of the rifles stored in these buildings, it is yet possible, in a number of instances, for a small band of determined men to gain entrance to the armories, overpower the attendants, which rarely exceed an armorer and an engineer or janitor, and by removing the firing-pins from the pieces, completely disable the soldiery for offensive operations. This is by no means a fancy picture, but an unpleasant truth from which there is no escape. Again, the various gun-stores afford numerous opportunities for pillage of which the rioters would not be slow to avail themselves. Hence it follows that one of the first precautionary steps to be taken against surprise and possibly subsequent disaster, is the careful guarding of armories, arsenals, and emporiums for the sale of arms.

CONTROLLING THE LIGHT AND WATER SUPPLY.

The second proposition pre-supposes a yet graver danger than the foregoing. Armed men may fight armed men, returning assault for assault, shot for shot, bullet for bullet. But a community accustomed to "modern improvements," and to which gas and the electric light have grown to be a necessity,—a community such as this, plunged without an instant's warning into total darkness, could hardly expect to escape a night of terror surpassing description. With this threatening danger constantly at hand, what means, it may profitably be asked, have been provided for counteracting its disastrous effects? Guarding the gas-houses and mains is a preventative measure;

but to what extent are our armories, public buildings, and even private dwellings and residences, furnished with *reserve lighting facilities* in the shape of lamps, lanterns, oil, candles, etc.? Probably, in hardly a single instance. And yet this provision is one of the most imperative and important safeguards against mob violence in cities.

The complications arising from a cutting off of the water supply, the sufferings entailed thereby, and the dangers of incendiary conflagrations, etc., will readily occur to you, and need not, therefore, be enumerated. But perhaps the most disastrous consequence accruing from these causes would consist in the demoralization that would inevitably overtake the National Guard under these circumstances; since its members, who after all are but men, would be inclined to remain by their families or business in such an emergency, and thereby deplete the ranks of the military to an appreciable extent. Here, again, the wisdom of being forewarned, and therefore forearmed, is apparent. But before passing to the consideration of the succeeding proposition, it may be well to inquire, whether these simple points of precaution are thought of by those in authority. Are officers of the National Guard instructed how to act in just such emergencies? Evils like these can be prevented, *if taken in time*. But whose is the especial duty to see to it, that at the first intimation of possible trouble, the dangers here hinted at are provided against? Does it belong to the Mayor, the Police authorities, or the National Guard?

DYNAMITE AND ITS EMPLOYMENT.

It cannot be gainsaid that the relative strength of the mob element, for offensive and defensive operations, has largely increased with the introduction of dynamite and its kindred nitro-glycerine explosive compounds. Witness the late riots at Lyons and in the South of France. The gases of these compounds, in addition to their greater strength, exert their forces downward and in all directions; gunpowder, under the same conditions, upward or in the direction where the least resistance is met. Not as yet applicable as a projecting power, these compounds, by reason of their rending and explosive force, can be used from the outside with greater destructive force than gunpowder. Comparatively little damage can be done to a building from the outside by the agency of a petard of gunpowder in the way of

shattering walls and roof; whereas the nitro-glycerine products, if exploded on the roof or against the walls, will render the building untenable. It is perhaps proper to remark in passing, that although the nature and application of explosives are thoroughly well known to professional military officers, it is essential to refer in this place to their elementary principles and application, from the fact that the general public and the National Guard know little regarding them, and that it is highly important that the attention of the latter should be called to the subject of these explosives, and even instruction be given in their use. From the proceedings of the United States Naval Institute, published in *Ordnance Notes* No. 222, we learn that in the latest improvement in this class of explosives, which can be briefly named as a camphorated gelatine dynamite, many of the difficulties and dangers arising from the use of ordinary dynamite for military purposes seem to have been overcome, and in the words of Professor C. E. Munroe, "the putting into the hands of the combatants, without serious danger to themselves, a destructive engine of such great power, ought to have a considerable influence upon the future of military operations." Hence the importance of their study.

General Abbot has tersely described "the action of all nitro-glycerine explosives as akin to a sudden blow rather than a continual push. Gunpowder projects or pushes the bullet from the barrel, and its use as a destructive agent is therefore comparatively restricted." The shell or shot sent from a cannon by means of gunpowder may have sufficient force to penetrate a wall and then explode, being charged with gunpowder; but the damage caused will be confined to that inflicted by the broken metallic fragments of the shell. Were a shell to be constructed of some light material, such as glass, tin, wood, or paper, and exploded in the street, its radius of destruction would be much more limited and wholly different in its results from the destructive agency of a similar casing containing dynamite and detonated by proper fulminating agency. Take precisely similar bombs, the one charged with dynamite, the other with gunpowder, and explode them without penetrating force on a roof. The dynamite shell shatters the roof and interior, the gunpowder shell causes comparatively little damage.

The effective employment of dynamite bombs by the Nihilists, and the comparative ease with which important buildings have

been blown up in Europe latterly by its means, clearly indicate a new departure in the methods of attack and defence in street warfare. If used with so powerful effect, it is but a question of time when troops operating against rioters will be forced to resort to the use of the same agency. Dynamite cartridges can be readily obtained or made rapidly, as occasion demands, can be handled without much danger, and used as destructive hand-grenades by the addition of primers and percussion-caps or fuses. That bottles, cans, and even paper boxes, charged with this compound, can be used as missiles with deadly effect, is but slowly coming to public notice; while the fact is patent that the restless and disturbing elements of society are not only posted thoroughly as to their manufacture and applicability, but will inevitably use them, on occasion, for the accomplishment of their own ends. The wisdom and necessity of guarding buildings and troops against these new and dangerous weapons cannot be exaggerated. Watchful care and vigilance are necessary, in the event of an outbreak, to keep rioters at such a distance that their hand-grenades cannot be thrown into or against threatened buildings, or among the troops; and discretionary power should be given to the commanding officer to employ the same means, in turn, against the rioters, in case of serious trouble, instead of exposing his men by attacking in line; and too much dependence should no longer be placed upon the effectiveness of the rifle and bayonet as against the nefarious methods of the disciples of dynamite.

BARRICADES AND OBSTRUCTIONS.

The barricade, while as yet but little known in this country, may, nevertheless, become as familiar and favorite an adjunct of offensive and defensive street-fighting as it is in Paris, thanks to the extent and excellence of the material for the erection and construction of obstacles of that description with which the streets of New York and other large cities abound. And principal among this material we find the telegraph poles and wires. Let us suppose, for example, that the rioters desired to cut off that portion of territory known as City Hall Park, and to hold in unmolested possession the several Government, Municipal, and public buildings lying between Chambers and Centre streets, Broadway and Printing-House Square. All that would be necessary to be done is the pulling or sawing down of the telegraph

poles in such manner that they will lie diagonally across the abutting streets, and a formidable mass, a perfect net-work of wire and timber, will be at once erected, presenting an absolutely impenetrable obstacle to the passage of a body of troops subjected to fire from commanding buildings. Any soldier who has had the misfortune of being called upon to attempt an assault on positions protected by abattis and a few lines of wire only, will readily appreciate the hopelessness of forcing a passage through such an obstacle as we have indicated. To clear away such a mass, even when not exposed to the fire of the defenders, is slow, laborious work. Break or tear it with grappling-irons, and the jagged and twisted ends are as defying as the unbroken wire; and not until the entire mass is dragged away can an attack be made. Contact with the electric lighting wires, and the fatal shocks resulting therefrom, further constitute a grave source of danger in this connection.

Naturally the advantages conferred by the employment of this means of obstruction do not rest wholly with the riotous, but may be used with benefit by the troops. A skilful commanding officer will so dispose this adjunct of defence, arranged in such manner as to permit ready passage for his troops, while being at the same time inaccessible to the opposing force. In the event of the necessity of clearing a street thus encumbered, the simplest and most effective means to be employed would be to attach a rope to the head of the poles and by means of a purchase from some convenient roof or upper-story window to raise the mass, securing it in position sufficiently high to permit free passage beneath it. This presupposes, of course, the having gained possession of prominent buildings—a course which will invariably be pursued by a prudent commander intent upon carrying positions with the least possible loss, and who appreciates the absolute necessity of not permitting rioters to retain control of such points of vantage.

Confronted by a problem or problems of this description, officers of the National Guard will find the exercise of a little common-sense military engineering—fallow ground to cultivate—of great advantage. If professional engineers are at hand, all the better; but if not, officers and men must exercise their own wits and ingenuity in coping with any and all difficulties developed by the emergency. The question turns upon the one simple point, how best to protect the troops, while inflicting the greatest damage

upon their adversaries ; or, in other words, what will stop bullets in advancing to or holding essential positions ? The old-fashioned omnibuses of Paris, carts, wagons, etc., have played an important part in the erection of barricades ; but in our modern cities the ordinary street-cars, used on or off the railroad tracks, will be found to be more advantageous. The tracks and wheels are lower, and when the body of the vehicle is stuffed with materials that will prevent wounding by splinters, they can be employed by either party as a protection. If, for instance, it is desired to erect a safe place of assembly for troops at a certain designated point, cars thus prepared can be pushed forward from either or both intersecting streets across the line of fire, after the manner that gabions and rollers are employed in the trenches. Under cover of the first car thus advanced, others can be pushed or dragged into position, until a barricade is formed completely across the selected street, and rendered impregnable except as against artillery, or fire from the surrounding house-tops. Failing such means, barrels and bales of merchandise can be similarly employed. So, too, counters, trees, boxes, signs, any thing and every thing calculated to afford shelter to the men, can be called into requisition and applied practically with good effect. Forbes, the celebrated English war-correspondent, mentions that one of the first steps taken by the commandant of Saarbruck upon the declaration of war between France and Prussia was the placing of his small command in a defensive position, by protecting the three bridges leading over the stream with casks filled with stones. We quote this incident to illustrate the attention paid by the professional soldier to the prompt and effective utilizing of whatever materials may be at hand.

THE MAINTAINING OF COMMUNICATION.

Signalling.—The interruption of telegraphic and other communication between Headquarters—police or military—and outlying points is an abiding menace. In the event of the wires being cut, as is highly probable, other means of communication must be devised. Flag and torch signalling, the use of the heliograph, etc., afford the only absolutely safe and certain means of overcoming this difficulty. Fortunately the State of New York, in common with several of the neighboring commonwealths, has latterly turned its attention in this direction, with the happiest results. And should the emergency arise, it

would doubtless be found an invaluable adjunct in street warfare. The employment of messengers, in times of *émeute*, is at best hazardous and uncertain. The messenger certainly takes his life in his hands in passing through a mob, with the chances largely against his message ultimately reaching its destination. Should it become necessary, however, to employ this method of communication in the case of an armory beleaguered, means must be devised of smuggling the messenger in and out by the rear or side building in citizen's clothes. Granting the invaluableness of flag and torch signalling, using the roofs of high buildings for that purpose, this brings us to the consideration of the necessity and importance of a well-devised scheme of public signals for the rapid notifying of the members of the National Guard to report at their respective armories for duty. The immense labor devolved upon non-commissioned officers in notifying their squads renders it absolutely essential that general-alarm signals should be more definite and distinctly understood. The present signal is twelve strokes of the alarm bells in the City Hall towers of New York and Brooklyn. But although the information thus conveyed is more or less rapidly communicated by members of the National Guard to each other, yet it would be better to have it repeated in different sections of the two cities, from previously designated churches or towers; while at the ferries and railroad stations, notices or signal flags should be posted, to the end that those members of the force residing out of town might speedily learn that duty and honor called them to their respective places of assembly.

THE RIOT IN ITS INCIPIENT STAGES.

In its incipient stage a riot can be readily quelled if met boldly and resisted at once with energy and determination. Danger lurks in delay. Let it be seen and felt that the Police are effectively backed by State troops; that guards have been posted in force at all points liable to attack, and that the plans of the leaders of the riot have been foreseen and frustrated at the outset. These steps, if firmly and rapidly taken, will have the effect of dampening the ardor of almost any crowd, however disposed to be tumultuous. Further, let the authorities see to it that the gas- and water-works, gun-stores and buildings presenting more or less temptation to the rioters are protected against destruction and pillage; that the armories and troops are supplied with

lanterns ; that the fire-engine houses are guarded, or that their occupants are provided with weapons of defence, for the *danger from fire* in all times of civil commotion is imminent.

If no acts of violence or bloodshed have been committed nor any extensive disturbances taken place, and the problem is simply the dispersion of a disorderly and turbulent gathering, the slow advance of troops in rear, or in support, of the Police is advised ; thus giving opportunity to the idle and curious, the women and children, to disentangle themselves from the crowd. The playing of a stream of water upon the assemblage, by means of a fire-engine, will not infrequently be found a thoroughly effective means of securing its dispersal. Getting wet is dispiriting ; the bubble Reputation is not to be sought at the nozzle of a hosepipe ; the soaked rioter is an object of ridicule rather than admiration, and is more apt to be laughed at by his whilom associates than regarded as a hero and followed to the death.

But in case all mild measures fail of success ; should the rioters have gained time sufficient to rob, gut, and fire prominent buildings ; should the streets, or certain portions of them, be in possession of the mob, terror reigns, and the strong arm of military force is required to put down and crush out the lawless violence under full headway. But one feeling should animate the authorities, civil and military, but especially the commanding officers of the latter—confidence in the result. It should be understood that it is simply a matter of time when the riot, whatever its proportions, will be quelled. The result is certain, sooner or later, to be in favor of Law and Order. The only question, then, is how that result is to be accomplished with the least loss of life and property. Every minute of time is invaluable under the circumstances, for every minute lost but adds just so much to the possible damage. Promptness, rapidity of movement, iron decision, crushing power exercised relentlessly and without hesitation, is really the merciful, as it is the necessary, course to be pursued.

Before proceeding to the specific discussion of the movements of troops against rioters, attention may be briefly drawn to a single important consideration in connection with the defence of New York and Brooklyn, since both of these cities must needs be considered as one from a military point of view. The East and North rivers offer facilities for rapidly and safely transporting troops from point to point the advantage

of which can hardly be overestimated; and the more so since by this means the fatiguing and dangerous forcing of passages through the streets may be to a large extent avoided. The advantage thus possessed by the National Guard of choosing its own point of attack is obvious. The landing-place most convenient to any given point may be selected, abandoned, or changed, as circumstances may render expedient. Save in the extreme-northern or least populous portions of Manhattan Island and the outlying wards of Brooklyn, all those sections of the cities in which riots are likely to take place can be reached from the docks by a march not exceeding one mile in any given instance. Patrols on steamers, with artillery, would provide perfect protection and security to the shipping, in addition to affording convenient cover to the landing of troops, should the point of debarkation be threatened. What with these floating batteries, and the armories, arsenals, and other desirable buildings that might be selected, occupied by strong detachments of troops, the cities would of necessity be so divided up and guarded that no mobs could congregate in very large force without the liability of assault from some one or more of these protective points, while from the comparatively safe shelter of the same, the commanding officers could choose their own time for making the attack.

THE DEFENCE OF ARMORIES.

Armories and buildings occupied as quarters for troops, being regarded as the base from which operations are to be conducted, measures looking to their proper defence are of prime importance. The commanding officer should not only thoroughly familiarize himself with the plan and construction of the building, but become possessed of equally accurate information respecting the surrounding houses and streets. The weak points and how they may be expeditiously strengthened; in what directions a flanking fire can be secured, where loopholes pierced, how windows be protected, and many other points and measures available to enable a small guard to repel attacks, will, by this means, be determined upon and provided for. Sacks filled with earth or *debris* of any description will usually be found not only readily obtainable, but invaluable for the barricading of windows. In the absence of this means of protection, rolls of carpet or matting are excellent substitutes. The large doors which ordinarily give

admission to the armory are a weakness, and should not be employed in the event of trouble or threatened disturbance. An entrance cut through the panels, and of only sufficient width to admit a single person at a time, will effectually preclude the possibility of a rush taking place.

Among the precautionary measures to be taken, the stationing of a guard for some distance up and down the street, while the battalion is assembling, is of importance. By this means the individual soldiers, who are likely to be subjected to assault when unarmed, will be materially assisted in reaching the armory. We have already called attention to the danger of the attempted seizure of the armories, with their military stores, as probably being one of the first steps of the rioters. While such action may be readily rendered of no effect by the adoption of protective measures, means should nevertheless be devised to render the rifles, ammunition, and artillery useless, should the necessity arise, from any reason, for the abandonment of any such military stores.

The approaches by the front, side, and rear streets, to the buildings occupied by the troops can be readily made inaccessible and freed of any serious danger of attack by means of barricades—the simplest, most efficient, and expeditiously constructed of this class of obstructions being that in which use is made of the telegraph poles and wires as before suggested. The poles should not be uprooted, but cut or sawed off about three feet from the base, thus avoiding the likelihood of their lying too flat on the ground; but at the same time the exercise of a little ingenuity on the part of the commanding officer will secure ready passage in and out for his men. The possession of buildings by the mob in the near neighborhood of the armory, and from which the roof of the latter can be commanded, should be vigilantly guarded against; and the more especially so since, as we have already seen, the simple dropping of dynamite bombs on the roof will uncover the building.

This brings us to a brief consideration of the National-Guard—the force, to which the preservation of order and property is entrusted. It is to be presumed that the occupations and the dispositions of the men in the ranks of the National Guard are known to their own immediate officers. This knowledge is important, if for no other reason than that the proper details of the right men may be made for the immediate work in hand, as mechanics and artisans for engineering duty, etc.;—but if not

then rosters, containing these details, should be kept. Again, certain among them may be suspected of being covertly in sympathy with the rioters. Should this be the case, great care should be exercised in placing the disaffected in the ranks near reliable men, and where no serious disadvantage is likely to result from their lukewarmness. Properly handled and treated, such men will warm up to their duty and perform excellent work. Keeping them in the ranks, under the eye of their officers, is far preferable to leaving them to their own devices, or in situations where their feelings and sympathies may be wrought upon by the opposing force.

THE MARCH OF TROOPS THROUGH THE STREETS.

The ability and judgment and perfect control of his temper being presupposed, the first duty of the officer charged with marching troops through streets is to protect his column. Commanded on either hand by buildings, streets are not wholly dissimilar to defiles, and should be regarded as such. At any moment fire may be opened from windows and house-tops; the troops be ambuscaded, as it were, and fire poured in upon them from every direction. Circumstances being equal, the line of march should be laid through the broadest avenues, and flanking columns sent through parallel streets to turn any position discovered to be more or less obstinately held. An advance guard should invariably precede the column, with instructions to take advantage of the shelter afforded by the side streets in the event of the mob in its front proving too dense or threatening for farther progress, and leaving the actual work of dispersing the crowd to the main body. The flanks and rear of the marching column should be protected by flankers, consisting of the most expert and reliable marksmen of the command, charged with the duty of keeping a constant watch upon the windows and tops of the houses. If precautions of this description be taken, the column can never be so seriously menaced as to endanger its existence as a body, while it can always be extricated from any position into which it may have advanced.

Should the troops be fired upon from the buildings, detachments should at once force their way into them. This may be accomplished in a variety of ways; but the method likely to be attended with the least loss, is that of entering the adjoining buildings and working a way through the party-walls, or by the

roofs and backyards. As a general rule, it will be found that the front of a house devoted to purposes of ambushed attack by rioters is strongly fortified and defended, while the rear is left open to afford ready escape to the occupants. In the taking possession of houses, strict orders should be given in regard to discommodeing well-disposed inhabitants; and, if there is any probability of fighting, protection should be accorded them to pass through the lines, or they should be warned to retire temporarily to the cellars. The tools which may be necessary for the use of the troops,—such as axes, shovels, etc.,—are to be found in most yards and cellars; the step-ladders leading to the roofs should be taken in charge of by the officer in command; with the latter in his possession he is safe from molestation while on the roofs, and his retreat assured. Roofs and upper stories being favorite positions with rioters, and dangerous to passing troops, they must be secured at all hazards or effectively watched.

The history of the several attacks upon and the defence of the village of La Bourget, during the siege of Paris in 1870, offers a most profitable study for every soldier liable to do duty in street warfare. Saragossa, in the time of Napoleon the Great, tells a similar tale; but in our own time La Bourget stands pre-eminent. Every house, says the writer Forbes, was a fortress, preventing the passage of troops through the street, and had to be forced by the pioneers with crowbars under a furious fire. Right and left the Prussians were compelled to force every individual building; and once within, there ensued a fierce hand-to-hand fight—on the stairs, in each room, on roofs, and in cellars. By breaking the dividing partitions, it became possible to traverse along the upper floors of the houses nearly half the length of the village on either side. There were actually three streams of combat going on at one and the same time—that in the streets, where men rushed from shelter to shelter, as they found it in projecting gables of houses, etc.; another in the rear of the houses, and the third in the houses themselves.

The occupation of buildings by insurgents for the purpose of resisting or attacking troops should be heavily punished, and the rioters taught, by fatal experience, not only the fallacy of believing that it may be safely attempted, but that once within walls they will never be suffered to escape; in short, that the supposed refuge is, so far as they are concerned, *a trap!*

It should be clearly borne in mind by the officer, that, save in the instance of public buildings, a city house or store is only one in a block forming a hollow square, and that the rear entrance can be readily reached by the adjacent street and by way of the yards; that the windows and doors can be commanded by the houses in rear, and by those on the opposite side of the street; and that the building and its approaches may be blockaded with ease, if its direct attack is too expensive of life and time; in brief, that the birds are in a cage, subject to his will and pleasure.

If dynamite shells or cartridges are used against the troops by being dropped from the windows, similar missiles should be employed against the rioters. The roof once shattered by this means an additional shell or two dropped within the building will speedily clear it of its troublesome inmates.

In the event, however, of the situation of the mob thus housed being such as to preclude it from inflicting further damage upon property if confined therein, it will frequently be the part of wisdom not to attempt its ejection. Close up the outlets—the mouths of the defile, as it were—and if the rioters desire to leave, they must needs become the attacking party, and fight their way out. This may readily be accomplished by stationing guards in corner buildings commanding the parallel and intersecting streets. Invested on every side, and without safe exit on front, rear, or flanks, the capitulation or the taking prisoners of the turbulent is simply a question of time within the selection of the authorities. The occasion and circumstances leading to the riot may perhaps make it obligatory to attack and drive the mob from its position without delay. But leaving out of the argument the loss of life attending such an operation, it is an important question, which the circumstances alone must decide, whether it is better to block the mob in certain quarters, or attack and scatter its elements throughout the city.

In Paris the plan pursued heretofore has been that of forcing all barricades or positions held by the insurgents. And history has handed down the names of the defenders of the political barricades as heroes and martyrs, and secured for them the praise and approbation of an admiring public. We want no popularizing of such a style of warfare in this country. A barricade or house abandoned by rioters for want of food, or from which they march out as prisoners, without fighting, carries with it none of

the elements of heroism or glory ; but rather calls down upon the malcontents the ridicule of the populace. Public sentiment has no sympathy with failure.

FORMATION OF TROOPS FOR CLEARING STREETS.

Strongly urging the principle of detailed columns marching in parallel streets, not only to outflank any crowd, but for the further reason that one deep column is liable to sustain more casualties, without corresponding benefit, than several smaller ones, we proceed to the question of formations. This is a subject that has received the attention of a number of able officers, who have devoted much thought and time to it. Generally speaking, however, the tactics, or applications of tactics advocated, have been too closely allied to formations in vogue during the period of muzzle-loading arms, when it was essential in street-firing to cause the first advanced company, occupying the width of the street, to deliver its fire, and then to retire by the flanks or through intervals to the rear to reload, its place being taken meanwhile by the succeeding company. Modern improvements in small-arms of precision have changed all this. With the breech-loading and repeating rifles of the present day, and the increased rapidity of fire, *there is no need of retiring to load, or relieving of the front company.* Time is all-important ; and the leading company must bear the brunt of the conflict until the question of the supremacy of the fire is decided.

In the field the skirmish line, if roughly used, is *reinforced* from the reserve. So, in like manner, should the first company in street-fighting be fed from the one in the rear. When time and circumstances admit of changing the leading company, in the event of warm work, fatigue, etc., it should be done. But no complicated manœuvres should be attempted, entailing loss of valuable time and space, *under fire or during active conflict.* The fact should not for a moment be lost sight of, that, unlike open field work, where the lines have space to pass one another, the troops are operating in a defile ; and that the head of this wedge of soldiery must be driven through, without stopping to sharpen the edge that is doing the work.

The duty of the second company is not confined to the support and replenishing of the first ; but it should also cover the advance by firing at the windows and houses ahead and on a line with the rioters, should any actively hostile demonstration come from them.

The formation in marching through the streets is of necessity in column of companies or platoons covering the width of the thoroughfare, preceded by a skirmish line and protected by flankers, who, in the event of serious trouble, either take up advantageous positions in areas, stoops, and door-ways of buildings along the route, or return for shelter to the column. All formations are in single rank, thus affording the men increased room in firing, in addition to other advantages. The head and rear of the column can be readily formed in two ranks if required, or, what is equivalent, closely reinforced from the nearest company; while the disposal of the wounded can be more quickly accomplished by the file-closers, without confusion, if in one rank.

The bulk of the fighting being presumed to fall upon the leading and succeeding companies, the third company should be held in readiness, and provided with the implements and tools for occupying the adjoining houses, should it be found necessary to adopt that course. In case axes, crowbars, rope, etc., have not been provided at the armory, they can generally be found in most houses; but, however this may be, it is of prime importance that the handling of those implements should be intrusted to men detailed because of their familiarity with or special preparation for their use. Over this detail should be placed some one skilled in civil engineering; and so vitally essential is this, that, failing a commissioned officer conversant with the work, the most competent non-commissioned or even private soldier should have this direction.

We have named among other adjuncts *rope*, which will not only be found of great value and assistance in the removal of obstructions, etc., but frequently of advantage as a preventive measure in keeping a noisy but as yet peaceful crowd from pressing on the troops when at a rest. There is in the contact between the military and an excited multitude something akin to gunpowder, which the least spark will tend to explode. The shove of an elbow, the pressure made necessary in pushing back the crowd, frequently tend to an outbreak of violence, which in many instances might be avoided by the stretching of a dividing-line between the two parties.

The columns moving in parallel streets, and keeping pace each with the advance of the others, have always at hand the means for rapid reinforcement or communication, if threatened. These are readily obtained by passing through the halls and

back-yards into the houses on the other streets; or, for gaining ground, without exposure to the front or rear, by passing sharp-shooters or a company by way of the rear yards of the houses on each side, and thus under cover, until the desired position is gained.

While the head of the column, and the guards to the rear and on the flank must of necessity be exposed to fire, yet the remainder of the command, when at a halt and during action, should be placed under cover as far as practicable in the areas and hall-ways of buildings and behind stoops, the line of sharp-shooters in front being protected by projections of buildings, by trees and posts, or by filled barrels. By these and similar devices the command is constantly kept in a strong position, and one from which a damaging fire can be opened at will upon the mob, while comparatively sheltered from harm in return. If the rioters offer obstinate resistance to the advance of the troops, or should they have the temerity to fire upon them, it can be returned from house-tops, from the sharp-shooters, and from heads of columns. Such a fire soon causes a mob to break.

If, however, the companies attacking should be driven back, the flanking fire from the covered sharp-shooters will prevent the troops being pursued any distance, and give ample time for reforming; for no body of undisciplined men could charge through a street thus fortified from the areas and roofs. Driven back by such a cross-fire as could be hurled upon them, it is only a question of time how soon they would be on the run. The key of nearly all positions in cities is the possession of houses, a *block* of buildings being similar to a fort, the ramparts and bastions of which are the houses, while the back-yards (fences being levelled) form a sheltered place of assembly from which all points may be reinforced; the avenues of exit are ample and numerous, and the officer may choose his own time for executing his next manœuvres.

ATTACK OF RIOTERS IN POSITION.

At the risk of repeating considerable that has already been stated, we venture a word upon the attacking of rioters in position. Whether this last consists of breastworks, buildings, or barricades protected by *abattis* of wire, greater care, involving more time and preparation, is required, and the assistance of Gatlings and artillery may be absolutely necessary, especially if

the rioters are provided with those weapons. But great as appear the difficulties against which the officer has to contend, yet he has the advantage of having the position plainly before him; for the mob, so to speak, is driven into quarters where they can be watched.

Reconnoissances being carefully made, he can deliberately choose his own plan and time of attack, and crush the riot at a blow. Possession should at once be taken of all buildings which command the position and the approaches to it. Each detachment of troops, and every avenue occupied by them, should be rendered secure from counter-attacks from front or rear, and when this is accomplished, and the troops are well under cover, a telling fire should be opened whenever and wherever an opportunity offers. The description of material available for the protection of troops depends upon the character of the surroundings. Casks, sacks, and boxes filled with bricks, stones, or dirt, bedding, mattresses, etc., are all readily obtainable. A filled and headed barrel or cask can be used to advantage for shelter, or as a gabion while working under fire when constructing a breastwork. Any movable shield, of whatever material, is of great utility in advancing the troops to close quarters without damage.

Hand-grenades formed of bottles wrapped in twine, rags, etc., and filled with powder, dynamite, nails, etc., can be thrown over the barricade,—any thing which would further add to the rioters' dismay and teach them we had progressed beyond the old style of permitting their firing from a secure shelter on dense columns of troops. In suggesting these measures, it should be clearly remembered that if killing must be done, the moral effect of killing and wounding in an unexpected manner, thereby rendering the opposing force of turbulent elements panic-stricken, is an important factor which should not be overlooked.

The chances are that the rioters, seeing that nothing is left to chance, but systematic measures adopted to pen them in on every side; disheartened by discovering the avenues of escape one by one closing up, and galled by the fire, will surrender. Should the enemy, however, possess field guns, which the troops do not, then more shelter, better protection, longer distances from which to operate, are required, while patience and prudence are the qualities essential in the officer until the arrival of artillery enables bolder steps to be taken to end the contest.

Whenever rioters retreat from a position they should be fol-

lowed and forced with the most rapid and powerful blows it is possible to inflict.

That the sight of artillery, however light in calibre, exerts a most powerful influence upon mobs, cannot be questioned. Of its practical use and the problem of its proper defence much might be spoken. Used in streets, at close quarters, its effective guarding is a matter of serious difficulty. Unless the support be kept close at hand, a sudden and resolute dash on the part of the rioters would result in its loss, while the picking off of both artillerists and supports is a constant source of danger. But if this last be kept down, as it must be, by the means already alluded to, this adjunct arm will be found of immense value—especially light howitzers and Gatlings, which can be easily moved from point to point without the aid of horses.

A column moving with these guns should habitually keep them masked until the opportune moment for their employment arrives. If called upon to go into action, an effective shelter may be speedily improvised by tiering up filled barrels on either side to protect the gunners. This may be carried to any required height, rolls of carpet, matting, etc., being employed if other material be unavailable. A breastwork of this description will not only secure the safety of the pieces and afford protection to the men, but behind its shelter the artillery may be handled coolly and with an effectiveness that will clear any street of the most violent of mobs without delay.

Conflict, such as is here suggested, presupposes casualties, hence it is important that the surgeons should have a small detail of men placed under their orders, and the wounded of both parties be at once taken into a house selected for hospital use, where they may be attended to in comfort and security. It is an error not to get the dead and wounded out of sight immediately during street troubles, for the spectacle is somewhat demoralizing to the unaccustomed. This cannot always be done in the field, owing to the distance to the rear; but in the streets the hospital can be at best but a few steps off, and the men should be promptly spared all unnecessary suffering.

CONCERNING COMMANDING OFFICERS.

As in all operations of war the closest attention is paid by commanding officers to the topography and characteristics of the country in which a campaign is conducted, so the officers of the

National Guard should apply themselves to a close study of their respective cities; acquaint themselves with the different routes to various points; the character of the houses and stores on those routes; the obstacles to be overcome; the location of armories, police-stations, ferries, docks on the river-front, churches, and parks,—important factors all in the problem of street warfare,—so that they may know, at each step of the way, by day or by night, the surroundings, the quickest and safest way to pass or move around obstructions, from what direction attacks are likely to come, and the most desirable points at which to make a stand. Accurate personal knowledge of this kind will be found invaluable in times of emergency.

The general rule may be laid down, that upon coming to close quarters with any large and apparently hostile body, and while forming columns of attack, the State regulations should be stringently complied with, by cautioning the mob to disperse.

There is a great deal in the way that soldiers, whether militia or regulars, are led. Courage is a relative attribute with men. It can be developed by example, encouragement, and tact on the part of the officer. A cheerful, lively spirit inspires troops when under fire or in difficulties, and soldiers will cheerfully obey an officer if he is resolute, understands his business, and appears confident of success. Confusing and contradictory orders are mischievous; and though promptness is always essential, it is better to be too slow than too hasty. Nervousness is not by any means lack of courage, but is a quality which the officer must control in himself; for if communicated to a body of troops it leads to disorder, and sometimes to panic. Many conscientious officers find the responsibility weigh heavily upon them when friends and comrades are rapidly falling. But it is precisely at such a moment that the officer should be firmest. Let him plan to prevent loss as much as possible; but in action the necessity for it should no more affect him than the wiping out of figures from a slate.

Objections may very properly be raised that the suggestions above made tend to the seizure and destruction of private property, under certain contingencies. But it is only just to remark that the argument presupposes serious and stubborn resistance to law and right. In ordinary street disturbances all that is necessary in the way of shelter can be obtained from the areas, trees, etc., without a house being entered or occupied. But however

much the invasion of the sanctity of the household is to be deplored, no officer should hesitate to take such a step, if by so doing the shedding of blood can be avoided. Above all it should be remembered that in these times of improvements in arms and rapidity of fire, the engineer's art comes into prominence. Heavy bodies of soldiers can no longer be exposed in street warfare, and the officer who so disposes of his battalion as to expose the minimum number of men to the rioters' fire, and at the same time crush resistance, has solved a problem acknowledged to be one of the most difficult in military science.

What is wanted in riots is a cool, calm exercise of *common-sense*, confidence in one's own ability, and an intimate knowledge of the surroundings, rather than an unreasoning adherence to certain tactical movements. Tactics are correct in theory, and have been demonstrated so in practice; they have been prepared by the best military talent, in accordance with certain well-defined and understood principles. But the circumstances must decide what movement is best, just as the patient's symptoms justify the physician in determining upon the remedy.

In conclusion, the writer desires to be distinctly understood that the *suggestions* contained in this paper are offered simply as such. If the opinions herein crudely expressed shall have the effect of directing the military thought of the country to this subject—a subject the importance of which cannot be over-estimated,—and if the discussion which is awakened thereby shall result in the formulating of a system of manœuvres for the defence of cities in times of riot, sufficiently comprehensive and elastic to meet emergencies, his purpose will have been accomplished.

DISCUSSION.

THE CHAIRMAN (GEN. FRY, U. S. A.):—*Gentlemen*: Notice of this meeting and of the subject to come before it, the Suppression of Riots in Cities, appeared in the daily press. My wife, in looking over that notice, carelessly, or inadvertently, mistook the word "Riots" for "Idiots"; so that she announced to me that THE MILITARY SERVICE INSTITUTION was going to have a paper on the subject of the Suppression of Idiots in Cities. I don't suppose that Gen. Molineux proposes to shoulder such a load as that to-day, but there is something suggestive in this blunder as to the title. We all, of course, know that men who engage in riots are, in a certain sense, idiots, and I suppose, generally speaking, also, that a good deal of idiocy prevails among those who undertake to suppress riots. But, whatever the title, the subject is one of great importance.

You have heard with interest the address of Gen. Molineux. We have here several responses from prominent gentlemen on the same subject, the protection of cities in time of riot. I however will not take up the time of the meeting to read those. I must confess it seems to me better that we should take up what time we have left in the discussion of the paper. Gen. Molineux' address has opened the subject, and I must confess has pretty nearly exhausted it; but there are many gentlemen present who, doubtless, would like to give information upon the subject or receive information upon it, and I would be glad to hear from any gentleman.

GEN. AYRES¹ (Colonel 2d Artillery):—I would say a few words on the points of the duty and responsibility of the commanding officer of troops, called upon in cases of riots and disorders, and when the duty and responsibility begin. It is sometimes said that, before acting, he will await orders from the Marshal or Sheriff (as the case may be), when in fact those functionaries have no commission to command troops, they being officers of the civil law.

The correct method of procedure is, that when the representative of the civil authority, dealing with the rioters, finds that he fails to quell the riot—to disperse the mob—that the civil power is inadequate—he should certify the fact to the commanding officer of the troop called out. He should give that certificate in writing. Then the civil authority vacates control, and the military steps in.

The military commander then commands the rioters, in the name of the government and people he represents—State or National, as the case may be,—to cease from their unlawful proceedings and disperse.

That will be ample notice to the law-breakers, that the military power has been invoked, and has taken control.

The military commander will thereafter take such action, and give such orders, as his judgment dictates; and will be responsible for his acts.

Such assistance as the civil authorities may thereafter render, till the riot is quelled, will be subject to the direction and under the control of the military commander.

¹ These remarks were furnished in MS. by Gen. Ayres, who was absent from the meeting.

MAJOR MCKEE (Ordnance Department, U. S. A.) :—*Mr. Chairman* : I have listened with great pleasure to the able paper which General Molineux has just read, and, having been requested to make some remarks there anent in relation solely to the use of explosive compounds, I will with your permission do so very briefly, and will occupy your time for only a few minutes.

We are, I have every reason to believe, on the borders of a discovery that will enable us to use a safe and stable compound as a shell explosive. To General Abbot, of the United States Engineers, and to the officers of the Naval Torpedo Station, we are indebted for a vast amount of patient, painstaking, and valuable work in this direction. I know personally that General Abbot is much impressed with the stability of Nobel's explosive gelatine—a compound of nitro-glycerine, gun-cotton, and camphor. Some of the Naval Officers are not so sanguine, and one, with whom I have had much correspondence on the subject, believes that we will come back to simple gun-cotton. I, however, without pretending to any great knowledge of the subject, believe with General Abbot that this gelatine should be thoroughly and lingeringly tested before we abandon it. Should we succeed in charging shells with it and propelling it from our guns in safety, we will have accomplished a revolution in gunnery which is so apparent that it is not necessary to discuss it.

We have lately made a few experiments with the gelatine at Sandy Hook, and have received authority to continue them. The sample sent us (75 lbs.) was made by Professor Hill, at the Naval Torpedo Station. This, however, was between three and four months old, and as little was known of its sensitiveness, we handled it with great care on opening the boxes. Then we dropped a 12-pound shell on a large cake of it, sawed into it with a knife as it was frozen, and hammered small pieces of it on an anvil, all without an explosion. We thawed it out and cut it up into small pieces, twelve pounds of which were put into an 8-inch shell and detonated with a strong fulminate of mercury primer. I will not bore you with any further details. It should be borne in mind this was *old* gelatine, and General Abbot insists that the gelatine should be freshly prepared when fired in a shell, as its sensitiveness is then at a minimum. May we not expect from this to ultimately obtain a compound whose stability is so great that it may be used successfully in all guns and employed with comparative safety by organized troops in grenades or petards? That eventually we may be able to do this, I do not think there is any doubt whatever. At the same time it must be admitted, that however stable we may succeed in making such an explosive, its employment is fraught with much more danger to the operators than attends the use of ordinary gunpowder. In fact, it would be absurd to supply a body of men, ignorant of its properties, with this dangerous explosive. Accidents would certainly occur and demoralize the men. Therefore, as General Molineux has aptly remarked, it would be wise for the National Guard to study the natures of these compounds, and be prepared to furnish, in case of emergency, a certain number of men who could understandingly use them.

It may be taken for granted that those among the rioters provided with explosive compounds will thoroughly understand their intelligent use. If the artist himself who prepares the substance is not on hand, as very probably he will not be, he will take great pains to give minute instructions to those who are to use his handiwork. Therefore, it may be taken for granted that if any explosive compound is used by the rioters, it will be used intelligently. They will have the advantage of the troops in the selection of the most available places for attack; in being able to hurl their bombs from windows, the roofs of houses, and other points of vantage. I do not think, however, that an assault of this kind could be long maintained by them, unless they had a regular arsenal of supply, which would be almost impossible.

The main point to be settled for our troops, as I have endeavored to show, is the procurement of some safe and reliable shell explosive. That point gained, the rest of the problem is comparatively simple. Gelatine could be projected from field guns into a building occupied by parties supplied with this or other explosives. It is not my province to suggest any tactical disposition, but if certain companies of selected sharp-shooters were organized by the National Guard to cover the Artillery while getting into position, it would seem to me to be a wise provision.

It is understood, of course, that I am simply discussing the feasibility, from General Molineux' stand-point, of using dynamite or its kindred explosives against rioters similarly supplied. I do not know that there would be any necessity for its use. In the open streets the guns of our great American inventors—Hotchkiss and Gatling—would do all the work that was necessary; and I can conceive of few modern houses, however barricaded, that could long withstand the fire of the Hotchkiss Revolving Cannon, with its shells loaded with ordinary black powder. And if this gelatine is a success, Hotchkiss—who is a "Gun-Wizard," will make a small shell that may be called the "Vicar of Civilization—Law and Order."

GEN. JOURDAN,¹ (Commissioner of Police, Brooklyn, N. Y.)—I heartily congratulate General Molineux upon his successful efforts to solve a difficult military problem, which in these times of peace and plenty is neither understood nor properly appreciated. In view of the importance of the subject, and the insufficient time at my disposal for its consideration, it would be presumption for me to attempt to discuss or criticise such an able and carefully prepared paper. I will therefore only touch upon a few points raised by the General, which strike me with especial force.

He asks "whether our civil and military authorities are keeping pace with the lawless classes, who must sooner or later be crushed, should they attempt to disturb the public peace." In reply I would say that the civil and military authorities have thus far neglected to adopt sufficient measures to cope with said classes, which are apparently on the increase in our midst, and in my official capacity, I have recommended that all places where fire-arms are kept for sale or storage should be placed under police surveillance, and arms should only be permitted to be sold under licensed regulations, which should provide that only a limited number be kept on hand, where they would be liable to seizure by a lawless assemblage.

Even in the location and construction of the armories of the National Guard erected in our principal cities, more attention has been given to making them luxurious amusement halls than to the establishing of substantial and defensible buildings at strategic points, where arms and ammunition would be safe, and troops instructed, housed, fed, and fought, in cases of emergency. The General asks: "Are officers of the National Guard instructed how to act in just such emergencies?" They are not, nor are they likely to be, until the National Guard has a permanent Commander of military experience, or until the Adjutant-General and the Inspector-General shall be selected with sole reference to their military ability, and who shall hold their offices by the same tenure as other officers of the organization.

I notice that the General attaches due importance to the indispensable presence of officers educated as Engineers, to aid in the suppression of riots. Yet our State military authorities have practically ignored that important branch of military organization, while they provide that an Engineer Officer shall be attached to each Brigade and Division Staff. Still there is no provision in the law to enable them to properly perform the functions of their office.

¹ These remarks were furnished in MS. by General Jourdan, who was absent from the meeting.

GEN. VIELE (Park Commissioner, City of New York.) :—*Mr. Chairman.*—I have listened with a great deal of interest to this paper. I think it is a very timely one, and full of suggestions. I hope it will be published and put in the hands of the officers of the National Guard, and in their Boards of Officers it may be thoroughly discussed.

The paper of General Molineux dwelt more particularly upon the tactics of resisting a mob. There is a broader question connected with this matter, and that is the strategy. I happened to have a few days' leave of absence during the war, in New York, at the moment of the Draft Riot. I saw a panic-stricken city, a panic-stricken governor of a great State ; there were very few people who seemed to have their wits about them. I made up my mind then, and I have never had reason to change it, that a mob may safely be defined as a sudden epidemic of insanity. I think Burnside's description of Paris during the Commune was as clear and just as any thing could be ; he likened it to a mad-house filled with monkeys. Men lose their reason unquestionably in a riot. The leaders of riots are undoubtedly very small in number, but they succeed in exciting excitable men and women and boys, and out of that grows the riot. Now, we have an element of civilization in our large cities that is going to play a very great part in suppressing riots hereafter, if properly handled, and that is the steam fire-engine. I think a rioter would hate a shower of water about as bad as he would a volley of musketry. Any thing to cool off the heads of these mad-men. And if, in the organization of plans for resisting rioters, there was to be an understood theory of co-operation between the Fire Department and the military—the machines being taken to the ground under cover of the military, and under escort, I believe that a riot can be suppressed more readily, with less loss of time, in that way than in any other.

The topography of cities plays an important part in connection with riots. We have had four memorable riots in our cities, to my knowledge : the three great New York riots—the Macready Riot in Astor Place, the Draft Riot, and the Orange Riot ; in Philadelphia there was the Native American Riot—an insanity of religion, where the Protestants undertook to burn the Catholic churches. The Draft Riot was aimed directly at the negro race. But at that time the difficulty that was met with was the panic of the people, and the want of information as to where the rioters might possibly direct their efforts. There were three or four different sections of the city attacked : one an armory or manufactory of guns ; another was the draft rendezvous—the whole block where the draft rendezvous was located was burned ; another, a negro asylum ; but they were all in different locations, far removed, two of them very far removed, from the location of the military.

Now, in the consideration of this subject by the National Guard, it seems to me that they should take the plans of cities, and in their Board of Officers discuss with great care the possibilities of the situation. They should locate certain places where the reserves of the military force should be ; they should determine upon certain buildings which might possibly be attacked, and look to their protection first ; and I think, in the general discipline of the Militia regiments in cities, there should be a detail always understood to be formed for these purposes—that there should be details of different regiments going to protect certain houses the moment the signal was given that there was a wide-spread riot, because these things spring up in an instant, from causes not generally foreseen, and every thing depends upon prompt action.

I hope, Mr. Chairman, that this paper, as I said before, will be distributed among the National Guard so that this very important subject may receive their earnest study. I can conceive of nothing more absolutely important.

Then there is one more point I might dwell upon, and that is the necessity of the

General Government maintaining in the vicinity of large cities as large a force as possible of regular troops. There is a general understanding among the floating population of cities, that while the National Guard might hesitate, "Them Reg'lar's are the fellers that shoot." And such was shown during the Draft Riot; the silence—the solemn silence—which pervaded the streets as the Regulars marched to the protection of the various public buildings, was something very suggestive. (Applause.)

GENERAL CHRISTENSEN,¹ (National Guard, S. N. Y.):—I coincide so fully in the precautionary and active measures recommended in the timely and able essay of my esteemed friend, General Molineux, on "Riots in Cities and their Suppression," that I express the hope that the supreme authorities of our National Guard may deem it expedient to reprint the paper in a handy form for general distribution amongst the officers of the force. I trust this all-important question may receive the immediate and continuous attention which it deserves, and that it may form the subject of frequent and earnest discussions, so as to pave the way for an authoritative set of regulations through which familiarity may be gained in every detail, and the force in an emergency may have that assurance and confidence which only an intimate knowledge of what to do and how to do it, can give.

I fully appreciate the increased difficulties with which we have to cope at the present day as compared with the suppression of riots in the past. I have in my mind the New York riots of 1863 (at which time I was stationed here as Asst. Adjt.-Gen. of the Department of the East), when a rising, born out of a cowardly opposition to the then existing draft law, caused such consternation, damage, and bloodshed. The mob was thoroughly disorganized, and could, without doubt, even with the extremely limited force and means at hand, have been suppressed at the very start, if prompt and vigorous measures had been taken by the authorities whose duty it was to support the Police to the fullest extent of their ability. But the coldness of the State authorities, and the weakness of the United States military authorities, (the State organizations were then all at the front,) gave the riot an impetus which for days left the city a perfect prey to a plundering, murdering mob. I think the backbone was broken by the courageous and energetic measures taken by Captain H. R. Putnam and two companies of the Twelfth United States Infantry from Fort Hamilton, and to him and his men belongs in an eminent degree the honor of quelling that famous—or, rather, infamous—riot.

But I am digressing. I desire here to call attention to an auxiliary source of protection, which may prove of no inconsiderable value, and indeed did so in 1863, in the case of the city of Brooklyn, where, as we know, the riot could gain no headway. I refer to the formation of companies of citizens who constantly patrolled the streets, armed with clubs, canes, or whatsoever other simple weapons of attack and defence they could lay their hands on, and effectually prevented any large gatherings of law-breakers for evil purposes. The citizens of New York seemed perfectly panic-stricken; had they adopted similar measures, much of the disaster which occurred could doubtless have been averted. It is a question which, I think, merits attention in connection with the suggestions offered by General Molineux.

I can only say, in closing, that General Molineux has placed the country, and especially the National Guard, under lasting obligations for the patriotism, high ability, and sound judgment of which this essay is such an eminent proof, and I hope and believe that he will soon have the pleasure of seeing it produce good and lasting results in a better understanding of what measures should be taken for preventing, resisting, and suppressing all attempts to disturb our normal condition of Law and Order.

¹ These remarks were furnished in MS. as Gen. Christensen was absent from the meeting.

Gen. SWEENEY (U. S. Army):—I move that the thanks of the Institution be returned to Gen. Molineux for his very interesting paper, and that he be requested to leave a copy of the paper with the Institution.

Gen. VOGDES (U. S. Army):—I second the motion, and I would like to make a few very brief remarks. I must say that I was agreeably disappointed in that paper; it was far abler, more perfect, and more complete than I had any reason to expect, although I knew he had it under consideration for a considerable length of time. I think he has covered the whole ground; every thing that can be said is there. He has dwelt upon those points which are the most difficult, and which will be the most serious when any thing arises. The riots to which General Viele alludes, I have seen a little of myself in the Whiskey riots. They are composed of bodies of turbulent citizens brought together without much organization, having no well-recognized leaders; they are mixed up with a crowd they take little or no interest in; and I agree with General Viele that water will very easily disperse them. General Molineux deals with a different class—men who have acknowledged leaders, who have leaders designated to certain places, these leaders known only to certain superiors of the mob, each one having his place assigned and each one his particular duty. Now, that is a serious matter, and the best thing you can do with that mob is to get it into as narrow a place as you can, and then open all the artillery you can upon it; that will dispose of it. You don't want to scatter it; you want to bring it to a head, and then see whether the resources of the Government are capable of putting it down; if it cannot, it is no longer a Government. There's the place where your artillery comes in.

One other little suggestion occurred to me while listening to the paper. Almost all of the armories are plain, square buildings, nothing else; there is no place for flanking arrangements. It seems to me there ought to be made in all of these armories some disposition for flanking the main entrance; and I would suggest, also, that a special company should be detailed for its defence, and have regular practice; they should have a repeating gun—I don't know all the names by which these are called since I have been retired; I don't bother my mind about the names, any will answer;—there should be some of them ready to defend the entrance, and they should be men perfectly accustomed to the use of the gun.

I think, in seconding the motion, that the thanks of this Society, the thanks of the community in which he lives, the thanks of the Government, and the thanks of his country, are due to General Molineux. (Applause.)

GEN. WEBB (President of the College of the City of New York):—*Mr. Chairman:* I have one word to say to supplement the remarks of General Vogdes, and a few words to add in regard to the usefulness of our Society. Had General Molineux' address been printed in the city of New York ten years ago, they would not to-day have located the finest arsenal that we own very near the foot of a hill, and then built a tall college higher up in order that the rioters might seize it, and from its roof fire upon the arsenal. That is about the plain fact in regard to this military question; that is the way in which we look at it, and that points directly to the usefulness of just such addresses as that of General Molineux. You may think that is original; it is not, and I never take to myself originality when I don't deserve it. An old French officer came to me one day to ask me if, as a military man, I had any doubt in my mind but that if they were to make me the leader of a riot I could get on that hill, and seize the best buildings there, so that the Seventh could not guard their armory. That was about four years ago. The suggestion occurred to me that if General Molineux (a man that has the respect and confidence of the people, and has shown that he deserves it) had written a letter of that kind six years ago, such a paper, brought before a body of men

who are known to be men of influence, holding prominent positions in the National Guard, would certainly have governed them in the selection of their ground for a great armory. Now General Vogdes rises up and says the selection may be poor, but he, as a military man, wants flanking arrangements. If that had been properly set forth, then corner lots in the neighborhood would have been seized and been made a portion of it. This advice, the result of experience, and the discussion of just such questions as these, persuade men to give their money and force cities to protect themselves. Therefore, I think that these questions which have been brought up here to-day have no right to be confined within our limits, and it is for that reason that I accepted—I don't know as an invitation, but as an order, from these gentlemen, who have forced it upon me—to write in December and deliver here a paper touching upon that very matter. It has been to me one of great importance; and when now, as a civilian—fifteen years a civilian—I take the trouble to leave my official work to come here, it is because I feel I am falling back and must come here to be instructed; and if I have to come here, after my long Army experience, that I might be instructed, how much more do others need to, who have not had any Army experience. This thing ought not to stop here; the meetings must not be confined to this island if we are to have discussions in the nature of the remarks that we have heard here to-day; and I hope to see, within a short time, that instead of being asked by General Hancock to come over here, we will ask General Hancock over to our side of the river, to hear what we have got to say about it. (Applause.)

Gen. RODENBOUGH (U. S. Army):—With reference to a matter of detail touched upon by Gen. Molineux—or, rather, *two* matters of detail,—I would like to speak. He mentions the propriety of the study of their respective cities by the officers of the National Guard. A recent search made by our publishers—Messrs. Putnam—failed to discover a map of the city of New York, on which were indicated the armories, arsenals, police and fire stations, the gas- and water-works, railway and telegraph offices, and other information of great importance to commanding officers in an emergency. In that connection it would seem that where the State and Municipal authorities have failed to provide such maps, that it would be both the opportunity and the duty of the War Department to cause resident Engineer officers in all large cities to provide such maps, for issue to all responsible persons, and especially to commanding officers who may be sent from any part of the country to cities to which they are perfect strangers.

The other suggestion touches a point upon which I have had some experience in the field—that is, the matter of having a few skilled mechanics at a certain stage of operations, men who are familiar with the minor details of telegraph and railroad construction, the care and use of explosives, etc.; and it would seem that it is quite possible for every National Guard regiment to have a small body of pioneers—so-called,—consisting of ten or twelve men, with a sergeant and two corporals, selected for special fitness; place in their charge all explosives which might be necessary to use, and such other materials and tools as may be required to carry out the purpose, and either use them as a body or individually, to direct the operations of the larger fatigue parties that may be required from the force. This body could also be instructed in signalling. It would be well, in addition, to equip a half dozen men in each company with axes, spades, and other intrenching tools. When a skilled working party is wanted in time of riot there is seldom time to organize and equip it.

Gen. WHIPPLE (Asst. Adjutant-General U. S. A.):—As a precedent to Gen. Molineux' paper on the suppression of riots, I think it might, perhaps, be well to say something on the subject of the *prevention* of riots, and as pertinent to that subject, I may say a word or two on what occurred in Philadelphia about the same time that they

had the riot in New York. The preparations for the draft were simultaneous in the two cities. Mobs in both cities threatened that if they attempted to enforce the draft they would stop it. Whatever may be the comparative danger between the New York mob and the Philadelphia mob, I think that the Philadelphia mob have, in time past, shown that they were not to be trifled with. I was on duty in Philadelphia when those preparations were going on. The commanding officer, realizing the situation, applied for, and got, about six thousand troops; he placed those troops at prominent strategical points—Moyamensing Prison, Schuylkill Arsenal, Bridesburg Arsenal, and in the parks in the centre of the city. The draft was to commence on Monday morning; and, as a little piece of strategy, on the Sunday preceding, an order was sent to a New York battery, encamped near Moyamensing Prison, to blacken their harness, groom their horses, brighten their guns, and march down Third Street to Frankfort Arsenal, so that the elements of the mob which would be out—as nobody would be at work at that time—could see it, and should they be asked what they were going to the arsenal for, to inform whoever asked, that they were going to exchange their solid shot for grape and canister. The battery marched through the streets, which were filled with people; the questions as to where they were going and for what purpose were asked a thousand times. The gates of the arsenal were opened, they marched in, shut the gates, remained about an hour, and marched out again and back to Moyamensing Prison, to their camp. Theoretically the ammunition had been changed, but practically it was exactly the same as they started with. When the time came for the draft, the city armories were taken possession of; troops were placed convenient to the draft rendezvous, not so as to appear aggressive; but it was left to the police to apparently control the whole thing, but back of the police was the power of the troops. There was almost a panic in the city; prominent men appealed to the commanding officer not to attempt to put the draft through. They said: "You don't know the temper of a Philadelphia mob; our houses will go up in flames, and our streets run with blood, if you attempt this; we beg you to stop this draft." The reply was that we were sent there to enforce the draft not to stop it. They said: "We will take the responsibility of your stopping this draft." It was replied: "You cannot take the responsibility of our duty upon your shoulders. But be not afraid, gentlemen, there will be no riot in this city. The preparations of the military are too well taken." Morning came; the City Troop volunteered their services and were assembled about the head-quarters; messengers were sent to different points, with orders to bring reports of the state of affairs from time to time. The first report that came in from a draft rendezvous was: "The crowd is serious, but no demonstrations have taken place yet"; the next was: "As the names of well-known persons are being called out as drawn, their neighbors are beginning to laugh at them." Then it was known that the danger was over. Philadelphia had the proper preparation, and had no riot whatever; there was no trouble whatever in the whole city, and the draft was put through in excellent order. So much for preparation. (Applause.)

GEN. WINGATE (late Gen.-Inspector Rifle Practice, S. N. Y.):—I can add but one suggestion to the very able paper of General Molineux.

As he suggests, the safest way to force a street, the houses fronting on which are held by a mob, is by flanking them out, either by sending parties through the yards in their rear or through the houses themselves. The first difficulty which will suggest itself to the mind of a commanding officer is the want of necessary tools.

I would suggest that in an emergency of this description a resort should be had to the nearest hook-and-ladder trucks; attached to each of these will be found two "battering rams," having affairs like "pavior's rammers," which are made so as to be

swung between two firemen, to break in iron shutters and windows. In the hands of strong men a practicable breach can be made with them in an ordinary brick wall in a very few minutes, so that a flanking party can be thrown directly through the houses.

In street-fighting a difficulty will be experienced from the rifles of our men being over-sighted. The firing will often have to be at a small mark—an arm or head at a window, or just shown over a barricade—and at under 100 yards. To be hit, this must be aimed at directly; yet all our military rifles carry over not less than six inches at this distance. Why should this be?

COL. HAMILTON (Colonel Fifth Artillery):—During this reading I have felt how much the community, civil as well as military, are indebted to General Molineux for this paper. It is certainly one of the very best papers on a military subject I have met. It reminds me of one of Dennis Mahan's concentrated and yet comprehensive ones on Grand Strategy.

In fact, this paper may, without paradox, be called the Grand Strategy of Town Attack.

It is painful to me to admit—it is forced upon me—that our social system appears to be bringing this study, as a necessity, more to the front every day. To be sure, a change that would render it useless would be the best remedy, but so long as the protection of property is of paramount importance, so long must we provide for its protection.

A point that additional attention might be called to is that of protection to banks and other depositories of valuables. I understand that in many of the banks of France, hoppers full of sand are supported over the vaults, so that by simply cutting a string the vaults are filled beyond power of removal within a considerable period.

Again, it strikes me that in bringing forward artillery to the attack of barricades the proposed modern shields, light and portable, might be used very advantageously to the protection of the gunners against small arms. In street-fighting the ability to fire skilfully from the left shoulder would appear to be very advantageous in enabling the right-file column to the better covering itself in firing advancing. Why should n't a portion of the rifleman's practice be devoted to this?

The General has been most happy in dwelling on and elaborating the plan of flank attacks. The flanks of a mob must always be exposed. When organization, time, and force enable illegal bodies to protect their flanks the movement merges close into revolution. However, one of the easiest mistakes for a commander to make is under-estimating the speed with which a mob develops, or the extent of feeling at the foundation of the movement.

In the riots of '77 a portion of the State troops fell into the first error at Reading. When no apparent danger threatened, a body got into a deep-scraped railway cut and were set on by women and boys from the street above, and many were severely injured by stones and brickbats, and others in turn were shot.

The second error I made myself in 1877, where I had anticipated no danger. We were met at Johnstown by, first, a shower of stones and immediately afterward wrecked, while we were yet thirty miles from the scene of the previous troubles, Pittsburgh.

It cannot be now determined how much trouble was saved my command at Reading through the posting of guards in the driver's cab and on the platforms between cars.

The want of this at Johnstown :

1. Allowed the driver to stampede.
2. The stokers had fastened up the bell-pull out of their way in shovelling; so bell communication was cut off between us and the driver.

In moving by rail a good arrangement of the companies is that by which they disembark, in case of attack, alternately right and left, and, if necessary, deploy all by the same flank. This served a good purpose at Conemaugh Bridge, and if the bell had served us at Johnstown, would have enclosed, by a flank march in double time, every offender, without bloodshed, I believe.

But, as the General says, the great fuel to mobs is the timidity of the commander of the troops. Though a wholesome fear of public opinion is an ornamental virtue, yet an anti-mob commander, to be successful in the greatest degree of economy to human life, should have very little of it. He should be blind to courts and newspapers. Through the politeness and provision of Major R. N. Scott, 3d Artillery, I got the reading of an eminent English author on mobs and anti-mob law, and I came from its reading frightened. A commander should be fearless of the future if he wants success in actual effort. The reason there are no laws to govern the officer in quelling a riot is that none can be written. Write one, and in five minutes I can put enough ifs and ands into it to rob it of all force. We of the regular Army are just so placed with regard to the arrest of deserters. Orders are generally to shoot them rather than let them escape, and when you do it, the local laws rise up, and the national law cowers and wobbles, in the presence of a coming election. Ask the Adjutant-General's Office for advice, and you will be informed that they don't decide supposititious cases. I wonder if Cuvier Grover has ever been reimbursed his lawyer's fees to Rufus Choate, etc., in the Prairie du Chien case.

Another social weakness is that the wealthy are generally above personal military duty. Evident reasons make it uncongenial to them.

Those who have the most to lose feel that they hire the soldier's blood and bones to defend their property. If the soldier had no higher purpose he would certainly dishonor the claim.

The truth is that the proud-of-wealth man rides into protection on the high conception that the soldier holds of the sacredness of property and peace.

The wealthy, of all others, should be our best-organized and best-disciplined soldiery. Safety for property lies, above and before all places, in the personal hands of its owners.

This paper has not been read any too soon. The gospel of Nature is being substituted for the Gospel of Christ, and certainly this is not reassuring. After all the wisdom of the statesman, financier, soldier, and legislist, the great controller of mobs is Christ's brotherhood.

The first step of mobs, rioters, communists, etc., is to sap Christian obligation. Could we all be united in one Holy Communion, the *raison d'être* of mobs would be scotched. As soon as we begin to cut ourselves loose from Christ's law, we follow by leaving all law behind; and when we do our best, except the Lord keep the city the watchman waketh in vain.

The CHAIRMAN:—*Gentlemen*, you have heard the motion, that the thanks of this Institution be voted to Gen. Molineux, and that he be requested to leave a copy of his paper with the Institution.

This motion being put was carried unanimously. Whereupon the meeting adjourned.

HOW EARLY DID WAR BECOME AN ART?

By CAPTAIN R. M. POTTER,

UNITED STATES ARMY.

A WRITER who has great acumen in dealing with legendary times, but is not incapable of oversight, makes, in substance, the following remark, while referring to an era of a little more than one thousand years before Christ: "In that age a general was little more than a stalwart warrior, who relied for victory mainly on his example of personal daring, backed by bodily strength and individual skill in the use of arms." I quote from memory, and may not give the author's exact words, but the notion he expresses, which is widely entertained, is, I think, to say the least, an exaggeration of a fact. The writer does not, of course, intend that remark to apply to the eras of the Phalanx and Legion; but if he had questioned himself carefully, he would, I think, have been puzzled to fix on the earlier point of time to which it might apply with perfect fitness. The personal valor of a leader was more important in the times of which Homer sang, than in those of Greek or Roman conquest, and vastly more important than it is now; but we cannot ascertain the time when the leader's prowess constituted almost every thing in war. I mean the kind of prowess in which bodily strength is the most essential element, not the personal daring inspired by quick perception, which has often won victory in modern times. The belief that the former kind of valor was all-important in the age referred to by the author I have quoted, is created by the illusions of poetry and legend.

It is my belief, that ever since men acquired mind enough to band themselves together, under a leader, for conflict of arms, war has been to some extent an art; and the war chief, if worthy of the title, has relied at least as much on his own craft as on the brute force of himself and his followers. The North American Indians were as far from reaching what may be called the science

of war as most other savages; yet their cunning plans for surprise and onslaught, and for lighting on places where defence would be weak, and the system of forecast with which they carried those plans out, show that brain, more than muscle, usually entered into their mode of warfare; and though their chiefs often exhibited great bravery, it was not generally after the fashion of the men who fought under the walls of Troy.

In early periods of Asiatic history, among races superior to the red man, it is plain to me that skill and discipline, such as they were, often, if not generally, contributed more to success than a strong leader's example and the blind rush of his followers; and the former qualities evidently often prevailed over superior numbers. The commander whose eye took in at a glance the advantages of ground for attack or defence, and perceived when to strike and when to hold back with advantage, and knew how, by rapid and secret march, to light upon a divided or unprepared enemy, and was able, not wholly by muscular example, but by personal magnetism, to give to a few swords the force of many, had no more ability than was possible for a gifted leader to possess in the earliest stages of warfare; and he who owned that capacity had the head of a master, whether he had the body of a Hercules or not, and was a great captain, whether his men carried bows or breech-loaders.

Hebrew record can throw more light than it has credit for affording on the question here discussed. A multitude of devout Christians, including, I think, nearly all of the most learned, now admit that Hebrew legend, like all other legend of early days, is not wholly made up of history. Old traditions, preserved orally for several generations, were evidently not committed to writing till after time had diluted them with myth and fable, including fabulous numbers, extravagant deeds, incredible butcheries, and supernatural events. This theory is perfectly compatible with belief in original inspiration, unless we assume that every narrator, scribe, copyist, and printer, through whom sacred record has come down to us, was divinely gifted with honesty and infallibility. Legends of the kind referred to seldom give a clear idea of warlike details, as they usually attribute to the direct intervention of Jehovah the victory or defeat, which He is likely to have brought about just as effectively through human agencies of valor and skill. Yet Hebrew legend, more trustworthy than any other, often gives data for inferring what is omitted.

The venerable but vague and distorted story of Joshua's career is full of astounding marvels, some borrowed, as the citation of the text shows (Josh. x, 12, 13), from the wildest flights of poetry; yet those prodigies readily separate from the more rational vein of a narrative susceptible of more analysis than can be properly briefed in this essay. Suffice it to say, that, on reading between the lines of legend, we find that Joshua's so-called conquest of the seven tribes or races of Canaan was merely the partial conquest of one, the Amorites, or Highlanders, together with some isolated fragments of other tribes, like Hazor, in alliance with the Amorites. Yet the Amorites alone probably outnumbered the invaders; for a few statistical sums, which have escaped the habitual exaggeration of legend, indicate that the Hebrew host, instead of numbering sixty myriads, did not reach one, so far as expeditionary force was concerned. See Num. xxxi, 1-6; Josh. vii, 3; viii, 12.

Joshua's conquest, setting aside what was brought about peacefully, was accomplished by two battles, both won by the sudden rapidity with which opportunity was seized. One was fought in the southern section of Palestine, and the other in the extreme north. The intermediate country was either not hostile or so feebly so that it was overawed by the blow which fell on either hand. The probably authentic portion of the narrative relates the capture of only four towns of Canaan by Hebrew assaults, during Joshua's campaign: Jericho, Ai, Makkedah, and Hazor. Others, referred to by legend, as conquered in that campaign, if subdued or brought to peace at all, were evidently overcome by the invader's possession of the country which sustained them. In the case of the four towns taken by assault, massacre, more or less sweeping, probably followed capture, according to the ferocious custom of the age; but in regard to the rest, named in a long list of exterminations, the monstrous tale of butchery is evidently fabulous. The rest of Joshua's conquest, so far as it went, was wrought partly by alliance, followed by speedy incorporation, and partly by submission under tribute. The former process brought the midland Hivites into the body politic of Israel, and made the Hivite town of Shechem Joshua's metropolis; the latter process in time Hebraized a part of the Amorites.

Joshua's greatest ability was probably shown in avoiding war with all save those he wished and could hope to conquer. This

he evidently did, for otherwise he would have been crushed ; and to accomplish it he must have held out easier terms than extermination to all the inhabitants of Canaan. No malignant vilifiers ever calumniated their enemies more foully than the Levitical historians of Joshua have calumniated him and their own ancestors, by charging them with a needless, unlimited, and impossible amount of murder.

It is remarkable that Joshua's victories, as related, have no dependence on his individual prowess. He is no Achilles or Ajax. He handles and hurls no huge rocks, but leaves that kind of heavy artillery to the use of Heaven ; and he slays no giants with his own hands, but leaves the sons of Anak to his subordinates. This indicates that in his case history has not been wholly submerged in legend, and that his story had a basis of truth-like tradition which has been unskilfully embellished. We may also accept as probable that he was, according to the lights of his age, a great captain of a slender band on a narrow stage, and had the kind of efficiency which I have pointed out as being then attainable. If we cannot demonstrate his high capacity, we may, at least, vindicate him from the impossible amount of crime which his venerated have charged him with. He invaded a country of checkered population, with most of which, owing to the feebleness of his force, it was necessary to preserve peace while warring with their near neighbors. He evidently accomplished this, and to do it he must have enforced rigid discipline over his men, and observed great circumspection in his general course, holding out fair terms to communities which offered timely submission.

In Josh. i, 16, 18, is a passage which sets forth, briefly and clearly, the notion entertained at the time it was written, as to what constituted authority and obedience in war. It expresses the fealty given in to Joshua by the two and a half tribes of the east lately in a half-disaffected temper. "All that thou commandest us we will do ; and whithersoever thou sendest us we will go." "Whosoever he be that doth rebel against thy commandment, and will not hearken to thy words, in all that thou commandest him, shall be put to death." We know not when the present Book of Joshua was written ; but some parts of it are evidently very old ; and this text has the tone of an ancient traditional formula, which may be coeval with the date assigned to it.

The career of David, though, as a whole, much more historical

in tone than that of Joshua, in one point falls below it. Joshua escapes the vulgar notoriety of a giant-killer—David does not. In the dual story of David's early years, what I take to be the original and true vein of narrative represents him as being known at the time of his first great exploit, as a valiant and tried soldier, he being not only the court minstrel, but an armor-bearer of the king, with sufficient military rank to have a tent of his own, when the army was in the field (1 Sam. xvii, 54). He was also, as we learn elsewhere, a scion of a house of high rank and warlike proclivities; for his father was the Sheik of the tribe of Judah,¹ and the family supplied Israel with several of its most famous warriors in that generation. All this gives an historical aspect to the rise of David, through credible facts of position and opportunity; but it is in a measure contradicted by the legendary context. That context, if we take only its outline, informs us of a probable fact,—that before the battle of Elah a Philistine champion defied the opposite army to match him with an antagonist. The young armor-bearer of Saul accepted the challenge and slew the Philistine; but we may infer, as a matter of course, that he did it with a soldierly weapon. Thus far the outline of the context, as well as the rest that I have cited, is quite probable; for we learn from fragments of the credible vein of the story that the slain champion must have been a man of ordinary size, since David took his foe's armor to his tent, evidently for his own use, and was afterward glad to recover for his own use the sword of the same Philistine. The context, however, when filled out, represents David as an unknown young rustic, just come to camp on a civil errand, and unused to and unwilling to use any other arms than a shepherd's crook, a sling, and a bag of pebbles²; yet with that armament the silly lad goes forth, and the unfeeling king permits him to go, against the Philistine, whom the context now stretches into a giant nearly ten feet high, and clad in a mule-load of armor; yet he falls, ignobly slain with a sling-stone.

¹ The last clause of 1 Sam. xvii, 12, ought to read, "and the man went among men as a *Sheik* in the days of Saul." This must refer to the chieftaincy of a tribe, for any thing less would not have merited mention. Jesse's descent is traced through Boaz to the Sheik of Judah in the time of Moses (Num. ii, 3; Ruth iv, 18-22).

² A Psalm attributed to David refers to his early occupation of shepherd; but he was probably the boy-shepherd of the family before he became a soldier. The round numbers assigned to David's age at the beginning and end of his reign,—thirty and seventy,—involving the ever fabulous forty for his reign, may approach the truth, but are too round to be precisely accurate. He was probably a few years over thirty at the decease of Saul, who had not reigned over twelve years. This would give David time to figure in all the wars of his patron if he left the sheepcots for the camp at the age of about twenty-one.

I cite the incidents in their dual form to show the inevitable tendency of legendary tradition to exaggerate the importance of championship at the expense of generalship ; and the habit of mind thus created gives some bias even to those who have little faith in legend. In the story just cited the little sling of the rustic achieves a victory over an army without another blow ; for the Philistines, with unwonted lack of pluck, run away as soon as their champion falls.

Single combat, in the presence of two armies, was in that day not an unusual incident ; but, at Elah, it was probably a mere prologue to a bloody tragedy, in which the skill and valor of Saul did more than the mere example of David to beat an enemy who had till lately been more than a match for the Hebrews.

Pertinent to the present inquiry is an examination of King David's muster-roll of champions found in 2 Sam. xxiii, 8-39, and 1 Chron. xi, 10-47. Its members were warriors selected only for the personal prowess they had given proof of, and they were divided into orders of eminence. Two of Joab's brothers and his armor-bearer are found in that roll ; but Joab himself is not. However magnified may be the exploits attributed to those mighty men,¹ the omission just referred to is more credible ; for if the whole muster-roll had been a forgery, Joab, as general of the host to which the champions appertained, would not have been left out. The omission I have cited favors a belief, that in David's day the highest order of brainless muscular merit was rated far below the intellect, which, though allied to less bone and sinew, could control and direct the brute force of the ranks. What we know of Joab's history indicates that, however fearless, he husbanded his skill in slaughter for occasions when it would pay well, or could be safely exercised. His leading of the escalade of Jebus was done to regain lost rank ; and all the other cases of death-dealing recorded of him are mere assassinations. Hence, if his bad character did not debar him from all warlike distinction, he was more likely to become a general than a champion.

¹ In this muster-roll we probably have an example of the engrafting of legend on authentic record. The following is an item of the roll, as it now stands, and there is another one like it :

" Abishai, the brother of Joab, the son of Zeruiah, was chief among three. And he lifted up his spear against three hundred, and slew them " (2 Sam. xxiii, 18). Lifting up the spear seems more like a conventional signal than a movement of combat. It was, no doubt, a sign of challenge against the body of three hundred to match the challenger with an antagonist. The last clause, as originally written, may have been : " and slew the man they sent forth " ; but some reviser of the record has probably changed a credible incident into an extravagant fiction.

Byron, in a note to his drama, "Marino Faliero," observes that the real history of his hero affords an instance of military success, under difficulties, of which the poet does not call to mind any counterpart except in the history of Prince Eugene; namely, that of keeping up a successful siege of a fortified city, though it had to be accomplished by defeating a strong relieving army, close to the besieging works. Had the noble bard looked back to a half-legendary period, he might have found a somewhat parallel case, how nearly so the vagueness of the record prevents us from judging. Joab, the aforesaid ruffian general of David, made at least an approach to the same exploit before a fortified Ammonite town, as related in 2 Sam. x, 6-14, and 1 Chron. xix, 7-15.

Israel's growth of power is very apparent immediately after the advent of Saul. The warlike efficiency of Joshua's day declined when peace put an end to the dictatorship war had created; and in the interspersed domain of scattered conquest, public affairs took more of a tribal than a national aspect. Then, for about three centuries, the shackling confederacy of tribes which composed the government of Israel was never able for any length of time to keep off foreign domination over a part or a whole of the Hebrew nation. But on the adoption of monarchy complete independence was recovered in a year or two; and the new king began to make his arms felt beyond his own borders, when his authority was paralyzed by the secret enmity of the Prophet Samuel, in conjunction with the priesthood. Samuel, the last of the Suffets or Judges of Israel, had been compelled by the national elders, backed by a strong party, to give up his seat to a king; yet the prophet, though no longer a secular magistrate, was sufficiently potent with the lower multitude to sow disaffection, so soon as the king refused to recognize him, like Trinculo, as a viceroy over the sovereign. The machinations of Samuel and his abettors, no doubt, led to the defection of David, who, it is said, was anointed in secret by Samuel, as a pretender to the throne. This, I have no doubt was actually done, though legend mis-locates the time of it. It was only after David had become a popular war chief, and by marriage a prince of the house of Saul, that he could be made available as the embodiment of treason; and the discovery of his implication in this was what first made Saul his enemy. (1 Sam. xx.¹) It can-

¹ The chapter here cited merits close attention. David was in hiding, for he feared his treason

not be doubted that Samuel's covert influence, though it could not enable David to succeed in his feeble attempt at rebellion in the field, created an extent of passive disloyalty which led eventually to the ruin of Saul; for multitudes who could not be induced to rebel against his banner shunned it, as accursed, in the hour of need. Yet he was able to hold his own against his most powerful enemy, the Philistines, till near the end of his reign, and till after the pretender took refuge among them. Then (and it is a significant fact), for the first time since the battle of Elah, they were able to make a strong rally for invasion; and Saul, deserted by all save the tried and true, fought his last battle and met with his first defeat. He and his heroic sons fell together on a field which offers one of the most dramatic scenes of early history.

Saul made the Hebrews what they had long ceased to be, a warlike and united people, formidable to their neighbors; David, who supplanted the house of his benefactor and father-in-law, made them, for two generations, a conquering and ruling race. Though this growth of power may be traced to the unity of authority and plan which came with monarchy, it was evidently the capacity of both monarchs for command which rendered the product of the change so fruitful as it was. This is quite plain in the case of David, and the more duplicated and perverted story of Saul admits of sufficient analysis to convince me that he was "a man more sinned against than sinning,"—a man of high ability,—kingly without pomp, and paternal without weakness; for though lenient toward petty ebullitions of discontent (1 Sam. x, 27; xi, 12-13; xviii, 6-8), he could deal severe blows against the conspiracy of treason (1 Sam. xxii, 9-16). His wrath fell heavily on the priesthood who aided the pretender to escape, for in them he had evidently trusted; but he spared the hand which had anointed him, though from Samuel he could have expected no fidelity. His successor, with more genius and versatility, had less

had leaked out, but was not certain of it; so he put a lie for the king's ear into the mouth of his dupe, Jonathan, by way of sounding the situation. He had not long before been secretly anointed at a reunion of his kindred in Bethlehem. If Saul had discovered this, any allusion to another such reunion at that place would unmask the king's knowledge by exciting his rage. In the story of David's association with Saul incidents are continually duplicated with modification and mis-located. The javelin thrice darted was thrown but once, and then at David's empty seat after his flight. When the riddle is rightly read, it is plain that no serious distrust of David had arisen in Saul's mind till just before what is related in 1 Sam. xix, 11. On the night there referred to David made his first flight and last exit from the court of Saul. We might again ask, "Is Saul also among the prophets?" He was more prophetic than he wished to be when he said to his heir-apparent: "As long as the son of Jesse liveth upon the ground, thou shalt not be established, nor thy kingdom."

true wisdom and patriotism. The fatal division of the Hebrew tribes into two kingdoms, owed its incipiency to David's usurpation of the throne of Judah, under Philistine protection, immediately after his protectors had slain his sovereign. Though the other tribes in a few years submitted to David, he evidently prevented reunion from becoming cordial; and the strain of separation thus put on, was continued by the crimes and tyranny of the usurper, and the luxury and oppression of his son, till Israel was rent in twain, never to be reunited. Had Saul's dynasty never been shaken, Israel's power would have had a slower but surer growth, and might have risen to the rank of empire, and averted the captivities. The ruin of the Hebrew nation is due to the house of David, and through it to the hoary traitor of Ramah. This epithet however harsh is deserved. Samuel, it is true, had probably done more than his greatest predecessor in giving strength to his people through religious unity in the worship of one God; but he undid his work by planting the seeds of political disruption and ruin.

I must crave indulgence for remarks which have become somewhat irrelevant to the subject of my heading; but I have been led into them by a strong sense of the injustice of priestly legend, which, in my opinion, has traduced genuine worth and canonized wickedness.

It is worthy of remark, that notwithstanding the stalwart form which Tradition assigns to Saul, she attributes to him no marvellous feats of personal valor, nor does she to David, except in the one embellished episode already discussed. Though they both no doubt occasionally dealt good blows of their own, Tradition evidently remembers them more as men of brain, than of muscle. They both formed companies of champions (1 Sam. xiv, 52), yet this rather implies that they reserved a higher order of work for themselves, and deputed championship to men who were fit for nothing more elevated.

Saul yielded to a strange superstition against the use of horses, which then prevailed among the Hebrews; and David seems to have done so till late in his reign; yet this very idiosyncrasy may have tended indirectly to make Israel formidable in their era. Asiatic nations were then prone to put their main trust in horses and chariots, to the neglect of Infantry. The opposite feeling of the Hebrews probably compelled their leaders to adopt a system of tactics which taught the loose array of Highland

Spearmen to form promptly a close and bristling front, which could defy the horseman and the chariot rider. Had the inhabitants of Greece and Italy, at a very early day, possessed the resources and habits of an equestrian people, the phalanx and the legion, I opine, would not have been developed, nor would the power of Alexander and the Cæsars have arisen. Let not the cavalier look down upon the footman.

The monumental records of legendary times are as untrustworthy as sacred record in assigning to personal valor and to skill of command their appropriate shares in the achievement of victory. The paintings and hieroglyphic scrolls of Egypt, and the bas-reliefs and cuneiform inscriptions of Assyria, aim more at exaggerating the might of the royal arm, than the sagacity of the planning and directing head; which probably did not always sit upon royal shoulders. The royal arm is more prominent even than the capricious and partial interference of the gods. The brief but inflated legends have little room left for other things than the king's personal exploits and the fruits of victory, leaving out all details of his or his general's military skill. That great conqueror, and still greater boaster, Rameses II., gives no account of adroit manœuvres, and still less of skilful retreats; and the pompous Sennacherib tells no more of such trifles than he does of the mysterious disaster which cut short his campaign in Judah. Thus we gather from those inscriptions little or nothing of the art of war as then existing; yet the paintings and bas-reliefs, by which they are illustrated, exhibit enough of its appliances to prove that it had made no little advance.

In epic poetry, the depreciation of head for the elevation of hand is at least as obvious as in the other sources of information already referred to. Monumental prose, by enlarging its tablet, might have made room for details of prosaic fact; but such dull matter would have chilled the pulse of Greek hexameters. More poetic effect was to be wrought by telling how Achilles lammed a Trojan bully on the left, than by relating how Agamemnon, with a column at double-quick, turned the right of the Trojan line. It suited epic verse better to tell how the champion cleft a helmed head through brass, and bone, and brain, than how the general, by a timely charge, cut through the centre of the Trojan array. In song it was inevitable that hard blows and big bluster should take precedence of manœuvres and strategy, and leave them to oblivion. In the same way, I have no doubt that in

Homer's narrative brute force supersedes the savage cunning of individual contest,—the cunning which usually keeps in play till bull-headed valor becomes a necessity. The real Achilles, if there was such a man, I have no doubt often squatted as low in the field before Troy as Davy Crockett, or any other squatter, ever did in an Indian bush fight.

I do not recollect that Achilles ever alluded to the office of a general but once, and then in terms of contempt, while indulging in unmeasured abuse against Agamemnon. These are his words:

“ ‘T is ours the doubtful fate of war to try ;
Thine to look on and bid the valiant die.’ ”

The reproach is not very telling when we recollect that it would apply to every great war chief from Agamemnon to Napoleon; for blood of soldiers is a munition which, like arrows and gunpowder, has to be expended at the word of command. Another thing which Homer may have omitted to bring into view is the rule of discipline and subordination in force when his heroes figured. Here are a few more of the words which, in the speech already quoted, Achilles is made to address to Agamemnon :

“ O monster made of insolence and fear,
Thou dog in forehead, but in heart a deer—”

The act which prefaces the outbreak is even worse than the words; for the champion laid his hand on his sword and would have slain the royal commander, had not Minerva held back the mutineer by his caroty locks. An officer of our day who, with such a menace, should hurl such billingsgate at his General-in-Chief, in the presence of a Council of War, would be apt to convert that Council into a Court-martial; and, though matters of this sort may have been viewed less rigidly then, by babbling heathen Greeks, than they are now by Christian Soldiers, I doubt if the laxity was as great as Homer represents; for, if it had been, the siege of Troy would hardly have lasted ten years, and ended with success. I have already quoted Joshua's rules and articles of war; and the writer who gives him credit for them evidently had a better conception of what subordination in war, and consequent respect for a chief, ought ever to be, than Homer had of those things.

But enough. Homer did not aim at showing the state of

discipline or the degree of true military skill in the army of Agamemnon, nor was legendary tradition able, nor did monumental record try, to exhibit, in detail, the condition of warlike art in the times they refer to. All that I seek to prove is the probability that those sources of information have created, extensively, a wrong impression on the subject. If I offer little more than conjecture thereon, it must be remembered that Conjecture is the only historian of the world's infancy, and the principal historian of its childhood; and I will be glad if vague surmises of mine should suggest something of deeper research and sounder logic from an abler pen, whether it be for or against my theory.

OUR CAVALRY :
ITS DUTIES, HARDSHIPS, AND NECESSITIES,
AT OUR FRONTIER POSTS.*

BY COLONEL ALBERT G. BRACKETT,
THIRD CAVALRY.

HAVING been invited by the Committee to give some of my views relative to our Cavalry,—its duties, hardships, and necessities at our frontier posts,—I will do so to the best of my ability, at the same time remarking that all of these things strike each individual cavalry-man differently. What may appear a hardship to one will be a pleasure to another, and what a conscientious man may consider a duty will to some one else appear of no importance whatever.

In the first place, it becomes necessary to inquire why any cavalry force is, or has been, requisite on our frontier, and why it is incumbent upon the General Government to keep up this expensive arm of the military establishment. It has grown apace of late years, and though it is very costly, may be safely said to have paid for itself, over and over again, in the safety it has furnished to the frontier settlers, and the immense benefit it has been to the Nation in opening the highways and by-ways of the interior of the North American continent. It has made many new roads, explored the recesses of the dark cañons, and traversed immense tracts of country before only known to the red men and the buffaloes. The duties of the Cavalry are multifarious and arduous, and it has been truthfully said about cavalry captains that if they attend closely to the duties they owe to their troops they will have all they can properly attend to. From reveille till tattoo they can always find enough to busy themselves about in looking after the welfare of their men and

* Read at a General Meeting of the MILITARY SERVICE INSTITUTION, Nov. 8, 1883, by Brevet Major-General WILLIAM D. WHIPPLE, U. S. A.

horses. In a wide sense the duties of the Cavalry at the frontier posts is to guard the infant settlements from the encroachments of the Indians on one hand, and on the other to prevent white men from trespassing upon the domain of the Indians. The duties are somewhat changed of late, in that the trooper is called upon to shield the red men from the cupidity of the border settlers, instead of crowding him, as formerly, to the wall. To keep the white men away from Oklahoma, the San Carlos reservation, the great Crow reservation, or the huge reservation of the Sioux, has recently on several occasions been as much as the United States Cavalry could possibly do, and it is only a question of time when the wave of civilization will swell over the boundary lines and occupy the lands which the red men now call their own.

"The pomp and circumstance of war" does not cut much of a figure in our Army, and the stranger who expects to find it is generally disappointed. True, the men put on their best uniforms for Sunday-morning inspection and make a creditable appearance, and, at times, a battalion is set up and drilled for a few weeks or months, but, as a general thing, our soldiers wear their fatigue uniforms and work at almost any thing except soldiering. They build houses, make roads, cut wood, burn brush, clear up land, and, in fact, do pretty much every thing except attend to the duties they are supposed to have enlisted to perform. While scouting, the men wear almost every conceivable article of dress, and it has sometimes appeared to me that they try to make themselves as outlandish as possible. Broad-brimmed white hats are both becoming and serviceable, and so is a good hunting-shirt, and it would seem as if there is no harm in permitting the men to wear them. In the far North it becomes necessary to carry a buffalo robe besides a couple of blankets while scouting in the winter, and even then frost-bitten fingers and toes often attest the severity of the cold. The nights on the Northern plains are clear and frost-laden, and the stars twinkle and flash as they do nowhere else in the world.

Of course the cavalry-man's horse comes in for a great share of his attention, and if he likes the animal, as he does most probably, it will not suffer for want of good treatment. The trooper often steals food for his horse, and in many cases shares his scant ration of bread with him. I have seen this done oftentimes, and at night the animals are placed where they can pick round the

length of their lariats. Where there is supposed to be immediate danger from Indians or enemies of any kind, the horses are kept close in and hopped, so that they cannot run away; but if there is any grazing near by the horses will not suffer. Old soldiers guard against sore backs in every conceivable way, and the young recruit is covered with chagrin when he finds he has made his horse's back as raw as a piece of beefsteak. Then both man and horse suffer; and, should the march or expedition be a long one, both of them will see sights before they are through with it, and, besides being commiserated by his comrades, the recruit is apt to be berated in a sound manner by the captain of his troop. Our horses are generally excellent, but the loads they are forced to carry at times are beyond all reason, necessitated by the unsettled character of the country they pass over and the meagre supplies to be found along the line of march.

Our saddles are good, as good, perhaps, as can be made, some preferring one pattern, others another; the bridles are well enough, but sufficient care is not taken in fitting the bits to the horses' mouths, which sometimes leads to serious consequences. Pretty much all the bits are severe, and this may be necessary; all of them are such as no citizen would use for a moment. It is claimed that this is needed to control the horse, and there may be some truth in it, but they are too harsh, apparently, and cut a horse's mouth fearfully. I have seen the tongues of animals nearly cut off by them. The Indians prefer a severe bit, and so do the Mexicans, and we all know what feats of horsemanship they can perform, putting to blush the greatest attempts of the bow-legged cowboys themselves. Our bits are borrowed bodily from the Mexicans and Californians, who claim to be the best riders the world contains. The bits now used prevent many runaways, especially if the chin strap has been properly tightened. The equipment is not different from that which we used during the great Civil War, and may be said to have stood the test of an extensive experience. The saddle blanket is necessary in all cases, no pad or felt having been found sufficiently excellent to replace it. This blanket is always available at night, either to cover the man or horse, or to make the camp bed on the ground a little softer, notwithstanding its abiding equine odor.

There are very few cavalry-men who have served any considerable length of time on the frontier who have not been turned out by an alarm of Indians. Usually some farmer comes riding

in on horseback in his shirt sleeves, laboring under the greatest excitement, hallooing: "Indians! Indians!!" and, after he has become sufficiently cooled down to tell his story, unfolds a sickening tale of the manner in which some of his relatives have been butchered in cold blood by the savages, or his horses and cows killed so as to leave him completely impoverished. Then there is hurrying to and fro in the little fort—rations have to be drawn and put up in bundles, the pack-mules saddled and loaded, and then the cavalry horses themselves have to be saddled and made ready for the field. Just at nightfall, perhaps, the motley cavalcade moves out over hill and dale in search of the trail of the savages. After scouting from seven to ten days no enemy is seen, no trail discovered, and the Indians themselves have vanished like the veriest phantoms of the mountains. Not one scouting party in twenty finds Indians, the greater number of scouts rendering unsatisfactory results.

Although similar, no two scouts are exactly alike, nor are they generally over the same portion of the country. Sometimes an officer stumbles on a war party of Indians, when of course there is a lively skirmish, and again, by dint of perseverance and determination, a war party of savages is overtaken and receives merited punishment for its depredations. This following the trail, day after day, is a trying ordeal for men and horses, and on these occasions they may be said to suffer real hardships. No fires are allowed to be lighted, the bacon is soon consumed, and there is little or no hard bread. This may occur in the cold and sleet of Wyoming or Montana, or on the hot and parched plains of Texas or Arizona. Men and horses must suffer, and a dear price is paid, even though a few red men are made to bite the dust. After capturing an Indian camp, enough dried meat may sometimes be found to appease the pangs of hunger, and not unfrequently horses and mules have been killed while travelling along to furnish a meat-supply for the half-famished soldiers. In these days when the savages are well armed there is no small degree of danger in the skirmishes that take place with them, as we all know. They are a very brave race of men when cornered, but, like their civilized brethren, they take advantage of every thing they can. To kill as many of the enemy as possible without loss to themselves is considered the highest type of warfare, and I am not sure they are not correct about it. They are never found throwing away their lives uselessly in war, though

some of their exploits are daring in the extreme. They know they have comparatively few men, while the whites are as plentiful as the leaves on the trees. They have no train of subsistence stores to bother them, each man carrying along what he can get in the way of rations. An Indian can eat more and at the same time live on less than any other human being, their gastronomic feats at times proving perfectly astounding.

When the snow falls in winter the cavalry people at the frontier posts feel that there is to be some rest for them, and gather round their huge fireplaces to take comfort. The horses are well stabled, there is a good supply of wood, the subsistence stores are plentiful, and deer stretch their limbs in the neighboring ravines. They are removed, it is true, from the great cities of the world, and from many temptations that surround their wealthy countrymen. There may be, and doubtless is, to many individuals, a great deal of hardship in thus being isolated, while to others it is the most pleasant condition of affairs that can possibly be attained. Their wants are few and are supplied without much exertion.

There is an ever-increasing desire on the part of young officers to carry the luxuries of the age to the frontier post, and this gives rise to many so-called hardships. Young men nowadays have a great deal of furniture, in many instances, and thousands of pounds of household stuff somewhat difficult to move about from one military post to another. We see the most incongruous things at times, and many a young bride has been taken to a frontier fort who pines for the beautiful things she left in her father's home in the East. Still she holds on to some things, and a Turkish rug frequently covers a dirt floor, and a grand piano becomes soiled by the mud of sun-dried bricks. She finds the market unsatisfactory, and canned stuffs, such as peaches, tomatoes, and green corn, poorly recompense her for the eatables obtainable in New York, Philadelphia, Chicago, and St. Louis. It is a sort of up-hill work, or, we may say, the pursuit of luxuries under difficulties. So it is, in fact, and I presume most old officers have seen a man put on a good many airs because he was the fortunate possessor of a cabbage or a mess of potatoes, while others had none of these toothsome comestibles. It does not take much to make an aristocrat. In fact, one of the real hardships of a frontier post is the utter lack, in most instances, of a good, wholesome, and plentiful supply of the more common garden vegetables.

The hardships of campaigning in Wyoming Territory contrast strangely with those of Arizona. On the one hand there are thick-ribbed ice, fearful snow-storms, and wintry winds that chill the marrow in one's bones; while on the other hand there are stifling heat and parching sand-storms. In the autumn of 1879 a camp was established near Rawlins, Wyoming Territory, where the reserve troops of the Ute Indian expedition were halted for a considerable time. The men had no shelter, except such as was afforded by their white canvas tents, and there was a good deal of hardship. The nights were clear and intensely cold, and it seemed impossible to get clothing enough on to keep warm. Little stoves were put up in the tents, and all night long the men would endeavor to pass away the time by alternately piling in wood and diving under their blankets, where they would be quiet for a little while. But the frost would get the better of every thing, the wood soon consume in the flames, and then the process of firing up would be repeated. All outside was covered with a shining white mantle that glittered like steel. The horses groaned with cold as the fierce Rocky Mountain winds swept over them, and the howling wolves, that infest that region in great numbers, disputing possession with the big-beaked ravens, seemed the only things that had any life left in them. The soldiers endured it as well as they could, but the cutting frost sometimes got the better of their fortitude. This was as dreadful a picture of desolation as I ever witnessed.

In May, 1882, during the Apache campaign in Arizona, there assembled round a little water-hole known as Cedar Springs, between Forts Grant and Thomas, quite a respectable force, all the men and animals of which were dependent on the so-called spring for water. The friendly Apache Indian scouts were, as usual, the first in, and they and their ponies, which they had captured from the hostile Chiricahua Apaches in Mexico, fared well enough. The head-quarters and four troops of the Third Cavalry came next, many of the horses of the command being unable to get enough to drink. Afterward some troops of the Sixth Cavalry came up that were unable to get any thing whatever. The spring was a very small one, and over five hundred animals surrounded it. The soldiers kept scraping the rocky bottom all through the night with their tin cups to get a little more to prevent themselves and horses from famishing. This might truly be styled a hardship. Never did I see so queer a

medley. The Apaches occupying the rocks and lying under the shade of the cedar trees decked out in bright-red colors, and adorned with many beads and ornaments they had stripped from the slain in the then recent combats. A more desolate place than the Springs can scarcely be imagined. A short distance away is the valley of the Gila River, and it is dreary enough; there is not a blade of grass in view, only a few straggling mesquite trees, with piles of reddish-brown rocks in the mountain ranges. The sun heats up every thing until the white sand dazzles and dances in the most singular manner.

I believe I know what heat is, and the deaths that some of our people die on the white sand plains of Arizona must be the most dreadful of all. Without water, without shade, without hope, the rocks so hot as to blister the hand if it touches them, these men lie down in a fearful state of delirium, and nothing is ever known of them again except perhaps when their bleached bones are found. I have seen soldiers staggering along the road like so many drunken men, and known of their minds deserting them, leaving only shattered wrecks. This is not a very pleasing view of "the pomp and circumstance of war," but it is a true one, as all old cavalry campaigners know, though as a general thing they say but little regarding it. People in good homes surrounded with every luxury do not like to hear these tales of the blistering lands of the Far South, or of the many hardships endured by the men at the frontier forts in that direction.

A long time is required to make a first-class cavalry officer, and one who is versed in all the knowledge necessary for conducting affairs smoothly and satisfactorily under all circumstances on our frontiers. He ought to possess a considerable idea of wood-craft, know something regarding the pioneer settlers, their dispositions and habits, and be sufficiently expert to arrange difficulties between them and the soldiers in a satisfactory manner and so as to leave no sting behind. Our pioneers suffer many hardships which our cavalry-men share, and it is always better to have things go along pleasantly, for the very people our soldiers protect, frequently have their flings at them and berate them soundly, especially when the savages, who have been stealing their cattle and horses, have not been promptly overtaken and punished. These flings sometimes cause a great deal of heart-burning, as our free, equal, and enlightened pioneers

often expect impossibilities. On the other hand, there is found the best possible feeling existing between the soldiers and settlers, each being willing to share his last crust with the other. They are truly the friends of the soldiers, and never tire of singing their praises. They give their corn and oats to them for their horses, make them welcome to their humble fare, and offer them the shelter of their cabins and rude dwellings, being only too glad if they are accepted.

One of the greatest hardships of garrison life on the frontier is the privation which exists in regard to amusements, churches, and so forth. Private theatricals are not always successful. Soldiers, in common with other people, crave amusements, and the class of entertainments originated by the soldiers themselves are far from satisfying. Negro-minstrel shows are pretty slow affairs as rendered by the cavalry-men, there being a sort of woodenness about them by no means pleasing.

Reading-rooms there are, truly, and they have done a great deal of good. In connection with them there is a library of well-selected books, where the soldiers take great pleasure in assembling after retreat roll-call, to hear the news and learn what is going on in the great world. Far away as they are from the centres of civilization, the weekly mail brings them newspapers from the cities, and books written by the best authors. For a time at least they enjoy themselves, and, though they may be called out the next day to follow the trail of marauding red-skins, here for a time at least they have absolute rest, and can scan the periodicals and papers at their leisure. I think of all the methods devised for giving the enlisted men of the Army quiet and rational enjoyment the reading-room is by far the best.

The necessities for an effective cavalry force on the frontier are, first of all, reliable men and sound horses. There is ordinarily not much trouble about keeping the animals in fine condition in the summer-time, but in many localities they suffer more or less during the winter. Hay, oats, corn, and barley can be obtained at most of the forts, or at least one of these grains, and the settlers on the Pacific slope prefer barley to any other feed, as the Arabs do, they claiming that the powers of endurance are greatly enhanced by it. California horses are smaller than those from the Northern, Eastern, and Western States, and in my opinion not as good for cavalry purposes. There is a great deal of difference, however, in regard to this subject, many officers

honestly thinking there are no animals so effective for scouting as those from Mexico and California; but I have noticed that most officers who think so are willing to exchange them for American horses. As to the soldiers, I believe some of our enlisted men are the finest on earth. Self-reliant and true, they are faithful to their flag and their officers, and have been found equal to every emergency. Some years are required to make a first-class cavalry soldier in our Army, but when completed he is as fine a specimen of manly endurance and fortitude as any human being that ever wore a uniform.

From what has already been said, a pretty good idea may be formed of the wide range of duties the Cavalry is called upon to perform, and it is surprising that these duties have, in almost all instances, been performed in good faith. Our United States cavalry officers, as a class, are reliable men. It is not worth while to particularize or draw invidious distinctions, but, were it necessary to do so, we could point out many first-class soldiers in the mounted service. Since the close of the great Civil War, it has done itself extreme credit and reflected lustre upon our National Arms. In former times American citizens dwelt with peculiar pleasure upon the exploits of our Naval officers in the war with Great Britain, which lasted from 1812 to 1815. If I am not mistaken, the same degree of pride is felt by my countrymen in the deeds of valor our cavalry-men have shown in their wild battles with the painted savages, and the intrepidity they have displayed on many fields. When this generation shall have passed away,—when the account shall have been made up, and balance struck, as to whether or not the Cavalry has been worth its great cost, I believe there will be an unhesitating answer given, that it has been found, like the laborer of old, "worthy of its hire."

DISCUSSION.

THE CHAIRMAN (GEN. CRITTENDEN)—We have with us to-day, one to whom you need no introduction. I know you will all be glad to hear from our Great Captain.

GEN. SHERMAN—I did not come here to-day to speak, but to listen. I have never been at one of these meetings before, although I have had some correspondence with your President

and Secretary, and shall endeavor, as far as it becomes me, to encourage you in your meritorious work.

The incidents alluded to by Col. Brackett seem almost as familiar to me as A B C. I have been so much in the West, and have had so much talk with the Cavalry, the Infantry, and the Artillery, that it seems to me a very plain statement, and I do not contest any point Col. Brackett makes. I do believe, that the Cavalry Arm of the United States Army has for the past fifteen years done a work in the progress of civilization, which should bring it the gratitude of the people of the whole country. They did more actual service, considering their numbers, than any other branch of the Army, during the period of our Civil War, which is now twenty-two years ago—we may say a lifetime ago,—and since that time have achieved a great conquest over our country's enemies, the Indians, outlaws, cow-boys, and over all kinds of lawlessness, until now I am certain they have earned the right to take off their saddles and enjoy a season of rest. But this is a curious world, and there is no rest either for the wicked or the good ; but there is still work in body or mind for both the young and the old. The old men—especially you one-legged and one-armed ones—have earned whatever of ease or honor you have attained. It is now for you to give to the young men the benefit of your experience. The work cannot stop. Our country is not finished yet—not by a good deal ; there is still plenty of work for the lieutenants, plenty of work for the captains, and still more for the generals who succeed us ; and while our Nation has passed through its measles and whooping-cough period, we stand now at the opening of a new epoch, and the youngest officer in the service has a prospect of a brilliant career.

We are on the threshold of a new era, in which the American Government will play a part of infinite importance to the happiness of the whole human family ; a greater part than that of France, or England, or Germany. They turn to us to see how we shall succeed in governing by reason of intelligence, by the general will of the people rather than, as of old, by what was supposed to be the will of God. In other times kings ruled by right from Heaven. We deny that right. The Almighty rules by laws almost too infinite for us to understand, but power comes through the People and man makes laws for his own government. We are the first people that have thus far been able to manage our own interests. Our young

Nation has had her share of trouble; we have had wars—the Revolutionary War, the Mexican War, and the Civil War. We know what War means. It means that we must have an Army which must have its generals, colonels, and captains. But it is also necessary to have a Power behind the Army—the Power that pays the bills—the tax-payers; they are the kings, and it is the duty of each man in the Army to respect that Power. There is no fear for the future officers of our Army; there are plenty of young men who are capable of taking care of any part of our Army in a war. There is work ahead in this growing country, for there will be other wars springing up. The best policy of our Army is to mingle with the People. I appeal to you to mingle more with the People, to comprehend them, and have them comprehend you, in order that there may be perfect unity between the People and the Army. Let each officer at all times remember that he is a marked man, chosen by the People and closely watched by them. We must strive to be like the laborer of old, "worthy of his hire," and be prepared to do our duty when it comes. I believe we ought to have to-day, and I believe we could pay, 100,000 men, and supply them with officers who could perform their duties thoroughly and fully. I know plenty of captains to-day whom I could point out as men fit for brigadiers. I have no fear for the Future. Since I have been in command of the Army I have watched the young men, and I have no fear, from what I have seen, that our young officers will prove unable to fill the places of our old men as they pass away. We are very liable to have wars, and if we are prepared for them, we shall reap the advantages of preparation. The Regular Army, as many know, was a great power in the Civil War. Politicians were wont to sneer at the military profession, and officers were sometimes called "aristocrats," and coxcombs. But when actual war was upon us these same men begged us to teach them to put their battalions of gallant but uninstructed and undisciplined men into shape.

I believe the Army to-day is in a better condition than ever before. We are physically stronger, captains and lieutenants are as well educated as at any other time, and I want them to understand that promotion will be as certain in the Future as it has been in the Past. Let each man do his own duty, but let the captain be *competent* to do a colonel's duty. Let the officer entrusted with high honor meet the trust as a man; and as sure

as there is a God in Heaven, the Army will command the respect of all men, and the Army of the United States will be the emblem around which this great nationality will concentrate.

I have seen in our Army as fine young men as any that ever leaped upon a horse. I have faith in the Future, and I am sure that the American Army wherever it is represented will command the respect of men, and be the bond of union to all parts of this great country.

I am glad to hear such papers read as were read to-day. I and other old officers must soon pass away, and let the young men take our places in active service. Our experience, however, is worth something, and we will be glad to give the young men the benefit of it.

I thank you for your attention.

GENERAL STONE¹ :—I have only a few remarks to make. I have been much interested in what has been said about the frontier service of our Cavalry, which, in days long past, I was witness to, and had the opportunity of appreciating its value, its hardships, and its dangers.

It may not be without interest should I repeat here a remark which I heard made in Egypt by a young German who had served five years in our Army on the plains. He said : "I was wonderstruck by the cavalry work done by the small bodies of cavalry on those western plains. The handsome, finely-organized cavalries of Europe know nothing of real hard cavalry work. For the work I have seen a squadron of United States Cavalry performing on the plains, Germany would send two regiments, and deem it hard service."

This country ought to have excellent cavalry, should proper care be exercised in recruiting the men ; for no country in the world, according to my experience, can so easily recruit an abundance of the best cavalry horses.

GENERAL COOKE (U. S. Army) :—Colonel Brackett gives a very calm, and, no doubt, faithful account of the conditions of our cavalry service since the war : of its valuable work, of the drudgery required of it, its privations and excessive sufferings ; but he touches no disputed point, no great question. As to the relative values "for scouting" of the "American horse" and the mustang or small breeds of Mexico and California, there is no difficult question ; the small horse, raised among mountains and arid plains, is much better—carrying smaller weight—for scouting ; just as the camel is preferable to the horse for work in Arabia. [Nevertheless, I marched with a regiment on large horses, without a single feed of grain, twenty-two miles a day for ninety-nine days.]

As to the exposure and suffering which, since the war, our Cavalry has been ordered to endure, I could never speak so calmly. They have made forced winter marches through snow when the mercury was 62° below freezing-point, and were even forbidden to make fires at night, in order to surprise and destroy hostile Indians, incapable of escape in such cold ; and when successful, the Cavalry have been branded by the Press with the charges of massacre and murder.

Our fathers, contending for liberty and country, remained, as the rule, as snug as might be in winter-quarters and in a wooded country.

¹ Stone Pasha (late Chief of Staff to Khédive of Egypt).

In the cases above, the Cavalry were martyrs to duty ; and surely a low grade of duty,—to obey orders that were unreasonable or wrong ; and they had not the martyr's usual supports of exaltation and enthusiasm to sustain them. I appreciate also the harrowing story of suffering, of the other extreme, in burning, thirsty Arizona, from a taste I had of it in midwinter.¹

GENERAL VIELE² :—An experience of several years' service with mounted troops on the frontier, confirms the statement of Col. Brackett, that comparatively few scouting parties succeed in overtaking the Indians they are in pursuit of, and when they do the results are far from satisfactory. This is not only due to any want of zeal or intelligence in either the officers or men, but principally to the want of adaptability of the force to this peculiar character of service. An Indian is as near a wild animal as a human being can be, and the pursuit of him should be more like hunting for game than the pursuit of a human foe. Those engaged in this kind of warfare should be more like hunters than soldiers, and should live in the field like hunters, each man relying on his own resources for subsistence, and all should be skilled marksmen, selected from the general service on account of their proficiency with the rifle and pistol, and paid a much higher compensation than other enlisted men. The officers should be of the same character, having a matured fondness for the woods and for hunting. Waiting for the Indians to commit outrages before undertaking to pursue them, is to give them several days' start in the chase. The many hundred miles that I have travelled on Indian trails, wearing out men and horses in a blind chase, while every hill-top gave out its signals of smoke from branches of dried leaves, ignited by the Indian videttes who knew all my movements, while I was totally ignorant of theirs, convinced me of the stupendous folly of our style of combating the savages. The Indian is cunning, but his mind travels in a circle, and he invents no new expedients ; when once his tricks are understood it is not difficult to circumvent him, but it is necessary to "play Indian" to get even with him. During my service on the frontier I learned many of his ways, but it was from a long and rather costly experience. I believe, that if the War Department were to organize one regiment of trained scouts, dressed in buck-skin and living entirely in the field, it would get more service, so far as results are concerned, than from five regiments organized under the Army system, waiting in camp or barracks for orders to pursue maurauding savages.

MAJOR SUMNER (8th Cavalry) :—We all agree with Col. Brackett in regard to the hardships of the cavalry service, and many of the instances narrated by him must be familiar to all. But there are really no more hardships in cavalry service than in any other active duty, and men must expect to encounter hardships when they are in the field. I think that most officers take all the precaution they can to make their men comfortable for the work they have to do, and I believe that all officers are agreed that a regiment is never at a stand-still ; it must either improve or it is going down every day. There never was a cavalry company in which there was not room for some improvement. It has been said that we study to make the cavalry soldier a machine, but this is not so. To reach an excellent state of discipline it is necessary that there should be more concentration of the forces. We have been separated and sent around from post to post with one company doing garrison duty for two, and commanders cannot get hold of their men to train them properly for military service. Commanders are expected to drill their men well, when, in fact, it is the utmost the garrison can do to take care of the horses,

¹ MS. from Detroit, Mich.

² Commissioner of Parks, N. Y. City (formerly U. S. A.).

and half or two thirds of the men, only, get out at drill. If our Cavalry could be assembled in larger forces they would be much more perfect in their drill. No cavalry company can keep in good shape by itself that does not see other troops drill. If our troopers could be placed where more attention could be paid to the drill—I mean entirely cavalry drill—I think it would improve the Service. Our men are not taught to use their horses to the best advantage. And if we had less target practice and a little more riding, our Cavalry would be in much better trim. If we could get companies together, our colonels and commanding-officers would brush up also.

GEN. GEO. A. FORSYTH¹ (Lt.-Col. 4th Cavalry):—Colonel Brackett says truly that “things strike each individual cavalry-man differently,” but I am of the opinion that all old cavalry-men will agree with him that “if they attend closely to the duties they owe to their troops they will have all they can properly attend to.” Very few officers who have not been in command of a troop stationed upon the frontier have any adequate idea of the detail connected with the proper care of a cavalry command. Not only must the usual routine duties of infantry officers,—such as setting up recruits, foot-drill, recitations in tactics, the proper care of arms, clothing, equipments, barracks and quarters, bedding ; the attention to personal cleanliness and the health of the men ; the proper cooking of rations ; guard duty, target practice, and company reports, returns, and accounts,—be daily attended to, but, in addition to these things, a troop-commander has to see that his men are drilled on horseback as well as on foot ; that three arms instead of one are properly cared for ; that his men are proficient in the use of the sabre and revolver as well as the rifle ; that a complete horse-equipment, consisting of saddle, bridle, watering-bridle, lariat, and picket-pin, side lines, nose-bag, halter, and saddle-blanket, is kept clean and in good order ; that men are taught how to properly fold their saddle-blankets, to pack their saddles, to properly cinch them,—and, simple as this sounds, the want of instruction therein has made many a sore-backed horse,—to study their horses’ mouths so as to properly bit them, to ride so as to distribute their weight upon the saddle, their thighs, and the stirrups at the same time, so as not to exhaust their horses on long marches ; and many other little matters that appear trivial in themselves, but that are in reality so necessary to keep a cavalry command in good shape in post and in the field. The especial care of the troop-horses,—their grooming, feeding, and watering, their being well shod, close attention being given to their health, the condition of their hoofs,—a very important matter,—a knowledge of horse-shoeing sufficient for an officer to know at a glance whether a shoe is too large or too small, too long or too short, too heavy or too light, properly or improperly set, or whether the hoof has been pared too much or too little,—all take time and require attention. He has as extras—beyond what officers of infantry generally have—his two stable calls, his stable guard, and his herd guard to look after, and if he does his full duty—as I am glad to know most cavalry officers do—he is a busy man. In addition to these things, at many posts, he has his pack-train to drill, his pack-saddles to look after, his eight to twelve days’ packed rations,—which are kept constantly on hand,—to inspect every few days, and satisfy himself that in case of a sudden call his pack-train will be ready to move out as soon as his command can mount ; and, of course, he is liable to all ordinary post-details, such as guard duty, and as a member of courts-martial and boards of survey and inspection. In fact, a good troop-commander cannot be made in a day, and he earns his pay as thoroughly as any government servant in existence.

As Col. Brackett says, Cavalry is expensive,—our Government found this out in

¹ MS. from Fort Cummings, N. M.

the War of the Rebellion,—but should a war again require the services of our troops, by simply making an additional regiment out of each one of the three battalions now in each cavalry regiment, the Government could have in four months' time, providing they filled the companies up to the war standard of one hundred men to each company, thirty regiments of twelve hundred men each, fit for field-service, and each regiment and company would be under command of an experienced officer, and all the non-commissioned officers to each troop would be well drilled and experienced soldiers ; and, in my opinion, it is not presuming too much upon the intelligence of the American Volunteer to say, that under the above conditions, our Cavalry, augmented in this way to two corps of over fifteen thousand men each, would hold its own against all comers, and our Government be in possession of a magnificent body of cavalry, in a shorter time and at a less expense than any other equal number of newly mounted troops was ever yet put in the field.

COL. GUY V. HENRY¹ (Major 9th Cavalry) :—Col. Brackett's article is very interesting. He fails to invite attention to one of the glaring faults in our service : that at a post, with Cavalry and Infantry, the Cavalry is called upon to perform the same amount of police fatigue or labor as is our infantry-man. It is forgotten, that the amount of work in keeping a horse and equipments in order is constant. Once, in appealing to a colonel of Infantry and post-commander, on the above subject, I was informed that this extra work was fully compensated for by the privilege of having a horse to ride. As most of our scouting is in mountainous countries, leading our horses, we don't see the point made. Again, arriving in camp, the infantry-man can go to sleep or rest, the cavalry-man's work still continues, so that every thing should be done to diminish the labor given to the cavalry-man in garrison, and time allowed for him to drill, and keep his equipments in order as well as his horse. This, however, is not done by either post- or department-commanders, details being equalized throughout the command. Again, no duty should be required of a cavalry-man (guard duty excepted) but what is done mounted—drills, reviews, inspections, and guard-mount, should all be mounted, and a cavalry-man not required to march. On the contrary, an inspector arriving at a post requires, in addition to the cavalry-drill, for the same men to pass in review or drill as a battalion with Infantry. This is all wrong and demoralizing to the cavalry soldier. The pay of the mounted man, calling as it does for extra service and intelligence, should be increased. Most of our men now re-enlist in the Infantry, with the same pay and less work. As to the horse he is generally too long and high-withered. We want a close-ribbed horse or " cob " for our service ; the Mexican or California horse, of more height, comes up to our best needs. One with high withers is bound, with falling off of flesh by campaigning, to become sore withered. Our equipments are good enough for the service required. Men who are required to do all sorts of work, giving them thick, heavy joints, are not able to appreciate the delicate mouth of a well-trained horse, and hence a more delicate bit, as a rule, would be of no use. Our work is not for fancy soldiering, but for rough service, following, perhaps for days, a trail at a walk ; in fact, many men in the field use only the watering-bridle. Men should not be allowed in the field to use their saddle-blankets for a cover for themselves ; they get dirt into them and this gives a horse a sore back. The sufferings, described by Col. Brackett, of our Cavalry from heat and cold are vividly described and not too highly drawn. The necessities for Cavalry are as great now as in times gone by. We now work to prevent intruders from encroaching upon Indian lands, and in following up and arresting desperadoes who seek such country for a refuge from the law. I hope the article of Colonel Brackett's will be followed up by others, and, out of all, some good may come.

¹ MS. from Fort Reno, I. T.

CAPTAIN PRICE (5th Cavalry):—Colonel Brackett has presented truths and illustrations concerning our Cavalry which are not appreciated by the people whom we serve, because the nature of the Service is not generally understood. I was glad to hear the General of the Army acknowledge so handsomely the brilliant services of the Cavalry during the past eighteen years—the conspicuousness of our squadrons in the work of civilizing the West and settling for all time the question of supremacy between the white race and the nomads of the plains. The construction of the overland railways has done much to eliminate the argument of force from the Indian problem, and our interior frontier will soon be numbered with the things that were. The time is near at hand—if not already with us—when the Government will be called upon to establish permanent posts at strategic points throughout the country, and the sooner our one- and two-company stations are abandoned and the troops are assembled by battalions and regiments, the better it will be for the *morale* and discipline of the Army, and the more valuable will be the nucleus about which our volunteers can promptly rally in the hour of danger.

The essential conditions required to make good cavalry are reliable men whose individuality can be successfully developed, good horses adapted to the climatic conditions of the locality where they may be employed, and a thorough course of instruction for both. We can get reliable men if officers will exercise a reasonable degree of care in accepting recruits from the many men that present themselves for enlistment. If the Government offered higher pay to our enlisted men we would be enabled not only to select from a uniformly better class of men than we do now, but we could also establish a higher standard of intelligence, which would be of incalculable value—not only to the Army, but also to the Country,—because in this practical age a soldier's value is chiefly established by his general intelligence. We do the best we can with the existing facilities, and the standard is very good. We rarely enlist a man that cannot read and write, and last year sixty-five per cent. of the enlistments were American-born. I hope that the percentage may continue to increase till we have an Army composed entirely of American citizens. I have no professional prejudice against the enlistment of foreigners—they make good soldiers. But I believe that the Government ought to offer better inducements for our native-born to enter the Service, and thus encourage the growth of an American Army, which would always command the sincere esteem and hearty support of our people.

Climatic conditions should be considered when horses are to be purchased for cavalry service. I have a high regard for the general efficiency of the Quartermaster's Department, but I do not think that its agents should purchase cavalry horses; that duty ought to be entrusted to regimental officers.

One of our wants is a system of cavalry tactics that will combine utility with adaptability. The system which we now use is a weak attempt to adapt infantry manœuvres to cavalry purposes. I would improve the Springfield carbine by adding to the length of the barrel, providing double extractors, jointed ramrods, improved sights for long-range shooting, abolish the wind-gauge, and then hope for the speedy coming of the magazine gun of the future.

My experience is, that less than fifty per cent of cavalry-men have a fair chance to be instructed in their duties. They are often employed for months at a time in logging camps, making adobes, constructing quarters, building telegraph lines, opening wagon-roads, etc. During these periods of manual labor they rarely have a mounted drill or a mounted inspection, while in some instances the target practice allowed is had *after recall from fatigue*. We cannot expect to have first-class cavalry under such conditions. We need more mounted exercise in the Cavalry,—such as leaping bars, jumping ditches, swimming rivers, sabre exercise, target practice, and a cavalry

school of instruction, where officers and men may be educated in all the essentials of the Mounted Service.

CAPTAIN WINT¹ (4th Cavalry):—My experience—at least of late years—differs from that recorded in Colonel Brackett's paper in certain respects. Where I have served, officers and men have been required to wear their proper uniform—including hat,—in which they are quite as comfortable as in any other dress, and certainly look more soldierly.

By order, saddle-blankets were never unfolded except for the purpose of drying, cleaning, and airing, and were not allowed in the trooper's bed, except as a pillow. Water, when scarce, was at once taken possession of, and guarded till it could be fairly distributed without waste. No animals were allowed in the springs or pools, but instead the water was placed in buckets or troughs, if there were any, and if there were none, then troughs were improvised, generally by making a small trench and covering with canvas or rubber blanket. In some instances the watering continued for hours or all night, but every animal got a share of the water before resuming the march next day.

I was with a command in the Ute expedition of 1879. We arrived in the mountains late in October, where we camped for the Winter. The command was soon well sheltered by use of canvas and such material as was at hand—some cotton-wood and plenty of willow brush,—and although the weather was cold, neither men nor horses suffered. Each cavalry company, in addition to stockaded tents, had a kitchen with mess-room and a bath- and wash-room; these were dugouts. The material for stables was a few posts with poles and brush; the brush woven like basket-work for sides and roof, then banked and covered with manure. When the command took the field the following Spring it was in most excellent condition.

COL. CARPENTER² (Major 5th Cavalry):—Among the disagreeable necessities falling to the present service of cavalry on the frontier, none are more irksome and grievous to bear than the never-ending building and labor that are assigned to troops, who have enough to do in their legitimate work of grooming horses, herding, taking proper care of their equipments, of carbines, sabres, and revolvers, in learning how to ride and to use these arms efficiently. The cavalry reach a post, and commence garrison duty. Details are made for extra- and daily-duty men to construct quarters and make repairs, to go into the woods and cut logs, to act as teamsters, to make adobes, or to quarry rocks. The enthusiastic cavalry-man, attracted by accounts of life on the Plains and scouting, and anxious to learn more of his profession, finds a sudden damper in the career that now ensues. Horses have to be taken care of, target practice goes on, arms and equipments have to be kept ready for inspection, in the midst of fatigue duty and labor and the constant use of the hammer and the axe.

A great deal of this tiresome work has to be performed by men who take care of horses, saddles, and arms in addition, and yet cannot get the small extra-duty pay in consequence of meagre and stinted allowances made to posts. Is it a wonder that many intelligent men who enlist to serve in the mounted corps should become disgusted, and that desertions are frequent? If the necessities are such that cavalry must be used in building posts, an effort should certainly be made to obtain the extra-duty pay, which is so well deserved, and is due under the regulations. Liberal appropriations of extra-duty money will save thousands by desertion.

It will not take a great exercise of the imagination to perceive how difficult it is

¹ MS. from Fort Leavenworth, Kas.

² MS. from Fort Robinson, Neb.

to properly set up and instruct cavalry under these circumstances. So little time is sometimes found for instruction that recruits have served an enlistment without opportunity for drill, through campaigns in the field and hard labor at posts. The facts being as stated, it follows that recruits for the Mounted Service should be thoroughly taught in horsemanship, and in the school of the soldier and company at the depôts, before assignment to regiments, and six months seem to be a reasonably short time to accomplish this. A much more desirable state of affairs would soon result, and recruits joining would be fairly instructed, and if necessity required, could take the field.

With regard to equipments and arms, they are equal to those of any cavalry. The long, trying campaigns over plains and deserts, mountain and valley, in cold or heat, in pursuit of a crafty and energetic foe, separated for many days from posts or depôts, have resulted in the selection and adoption of excellent methods and appliances for carrying ammunition and supplies, in good saddles, accoutrements, and equipments, and in reliable arms. In these matters the cavalry of Europe may learn from us.

In our Service the following seem to need attention:—

1. A properly constructed carbine boot should be adopted without delay, to take the weight of the carbine from the shoulder.

2. The *canteens* should be carried attached to the ring of the saddle by a short strap with a snap, and not by a strap over the shoulder.

3. A *uniform dress* should be adopted, especially suited for scouting, including a good, serviceable light-gray soft-felt hat, and a better boot than now issued. Nondescript attires should be discarded, and troops made to conform to regulations.

4. A *revision of the tactics* is needed, especially in regard to the skirmish drill. The deployment forward is too complicated, and confusion is likely to result, either mounted or dismounted, should the command happen under fire. The dismounted and mounted formation in the school of the company should be as nearly alike as possible, including the distribution and placing of non-commissioned officers. Some of the manual of arms can be dispensed with.

5. Strict regulations and close attention to the *purchase of horses* are required, as a great amount is lost every year by poor judgment in horse boards.

6. There should be *lectures*, at West Point and the School of Application at Leavenworth, on veterinary practice, horse-shoeing, and the anatomy and proper care of the horse. All cavalry officers should know when a horse is properly shod, how to treat him in ordinary diseases, to tell his age, and to judge whether an animal is sound or not.

COLONEL E. V. SUMNER¹ (Major 5th Cavalry) :—I consider the paper one that will interest many readers of the JOURNAL who delight to have their trials and hardships recounted, as well as something entirely new to those who think that soldiers have nothing to do but eat and sleep. But the article refers principally to things of the Past. I see nothing of that which is to come!

What we most need is more time and opportunity to cultivate the men in the ranks of the Army; to make every soldier competent to fulfil his calling; and with that in view, a general weeding out of those who are useless: old soldiers to be cared for and vagabonds dishonorably discharged.

Few officers in the Line of the Army took any interest in target practice until the men in the ranks of their own companies began to excel them as marksmen; now a poor shot among officers is an exception. Would not the same results follow proficiency in other parts of our profession?

¹MS. from Fort Niobrara, Neb.

There can be no objection to lieutenants having Persian rugs and as many pianos as they can afford, provided they themselves are on hand when duty calls, and know what their duties are.

In the *good* Old Time they had blankets for curtains, a gun-box for a settee, a cracker-box for a wash-stand, and a pine bunk for a bedstead ; but now we have all the luxuries and comforts of modern times, and can take a bath without having to travel to the nearest stream with a towel and piece of soap.

Colonel Brackett truly says we have some of the finest men in the world in the ranks of our Army, and I can testify to the fact of receiving from him, while Superintendent of the Recruiting Service, excellent material for cavalry soldiers ; but when all have to use the shovel more frequently than the rifle and sabre, what difference does it make whether we get good or bad material ?

There are two classes of men in the ranks : those who like to soldier, and those who prefer to labor. Notwithstanding the universal cry of too much work in the Army, and the reports of officers that this is a fruitful cause of desertion, it is, nevertheless, a fact that as many men desert from commands where there is little or no labor, but too much drill. Too much of either drill or work is not good policy. There might be a happy mixture of drill, work, and play, which, in my opinion, would make better soldiers, increase their happiness, and greatly reduce the number of desertions.

The Adjutant-General recommends the retirement of old soldiers on full pay. This is a subject we are all deeply interested in, and we all want the good old faithful men well cared for. As a general thing, they dread the Soldiers' Home. I suggest the idea of dropping them from the companies when they can no longer perform full duty, but retaining them at posts to perform such duties as they can.

Most cavalry companies have two or three old men whose services are invaluable as guards for property, or in charge of stables and sick horses. This gives the old men full pay ; they earn it, and never lose their dignity and importance. Usually, any man who has served several enlistments in the Army, and has a good record, can be trusted to any extent, and we all feel pretty safe in leaving them in charge of property when hurried off on the march ; and when one of those veterans "sits down upon" a recruit it is more effective than the reprimand of his captain.

If two companies exchanging stations should happen to meet, the principal topic of conversation would be concerning the old men left behind. One would say : "We left Ould Jerry behind ; mind ye take good care of the ould man" ; and the other : "We left our Old Mike ; mind ye do the same." The reply of each would be : "You bet we will," and Jerry and Mike would be taken care of to the last day of their existence, and finally buried with all the honors of war. So much for the old men.

If we take care of them at the posts there will be no further need of a Home, and when that is abandoned, the posts might get the money heretofore used for its support. That amount would furnish every post in the Army, of more than two companies, with a band, and leave a margin for the purchase of articles necessary for the amusement and comfort of all, both young and old.

I am not undertaking an attack on the Soldiers' Home, but if it is intended to retire the old men on thirteen dollars a month, and turn them loose on the world, we would all prefer to keep them and care for them, even if we failed to get the court-martial fines and other perquisites.

GENERAL DAVIES (late U. S. V.) :—I have not mounted a horse as a cavalry officer, or drawn a sabre in command, for nearly twenty years past, and so I cannot assume to add much to what has been said by officers who are now in the Service and who have spoken this day from their practical experience. But I can still make a few

suggestions which my observation of the Service has brought to my mind. I see with great pleasure that new equipments have been adopted for the Cavalry, and that the saddle and bridle under the new regulations are far superior to what they were in the days of my service. With these properly supplied and properly fitted under the care of competent officers, there should be no complaint of sore-back horses or crippled men. I believe also a proper service-uniform should be adopted for troops. Many changes and improvements have been made, but apparently only in the direction of a full-dress uniform, and as Colonel Brackett says in his paper, when scouting and on active duty, the men wear all sorts of rags, or any clothing they may get, to protect themselves from the weather. I believe that, both as a matter of discipline and of duty, the soldier should under all circumstances be kept to a certain standard uniform, and be compelled always while on duty to wear it. As to the question of horses, which has been discussed to-day, my experience, obtained both in the Army and in civil life, is that the most valuable animal for such work as required by the cavalryman is an American-bred horse, of fifteen hands or thereabouts, with as much good-breeding in him as the Government can afford to pay for. I have also to suggest that regulation should be made and equipment furnished for the proper carrying of supplies for man and horse while on active service. This can be improvised, as it was during the war, by commanding-officers, and as the case may be, is well or ill done. It, however, should not be left to chance or possible discretion, but should be, like all questions concerning the welfare of the trooper, a matter of discipline and regulation.

LIEUT. DAVIS (5th Cavalry):—I do not think that I can add any thing to the discussion that we have heard to-day. I do not believe that cavalry officers have any thing to complain of in the matter of equipment or material, as the Government supplies them very liberally with every thing that is needed for the comfort of their men, who seem to me to be better cared for than at any previous period in the history of the Mounted Service.

One thing has struck me very forcibly within the past year, and that is the extreme youth of the men we are now receiving in the Cavalry. In one company I found but one man who had served during the war, and, of the rest, while perhaps ten or twelve had had some experience in Indian warfare, fully three fourths had never taken part in field operations of any kind.

These men, of course, know nothing of the details of active service. Every thing must be taught them from the beginning, and, as the same state of affairs exists in many if not most of the regiments, it is plain that the instruction given them must be of the most careful and painstaking character.

As Major Sumner has said, the consolidation of troops at large posts, where they can be "shaken together," will be one of the best ways of accomplishing this end. The companies should be brought together, and into direct competition with each other, the best in drill and discipline fixing the standard for the rest.

The tactics are also in need of extensive revision, especially in the matter of the individual instruction of the trooper, in skirmishing, mounted and dismounted, and in the use of fire-arms, which General Upton was accustomed to call "fire action."

Most of the changes that have been suggested will probably be accomplished within a few years' time, and if officers will continue to do their full duty by the men and materials that are placed in their hands, the Government will have no occasion to complain of the efficiency of its Mounted Service.

COL. MERRILL (Major 7th Cavalry):—What I wish to suggest, in reference to our Arm of Service, seems to me to have serious and, I might say, *vital* importance. Are we not wholly losing the *Cavalry* spirit?

The frontier service, while a good school, is much less a school for cavalry than for mounted infantry work. A disgracefully bad system of tactics, and, in later times, a large influx of officers who have had their training wholly in infantry ideas—and who do not appreciate the traditions and teaching of our arm as cavalry,—lead in the same direction. Are we not in great and growing danger of losing to the younger men all chance of knowing what the true mission and duty of cavalry is in civilized warfare, and of the vast difference in spirit, training, and purpose between mounted infantry and cavalry?

I simply want to throw out a hint for a discussion which seems to me to be of great value to the Cavalry.

CAPTAIN AUGUR¹ (5th Cavalry):—The system of horsemanship is in its infancy in our Service. It does not give the men the seat, ease, and grace that ought to exist on horseback. The tactics give prescribed rules, which explain what a proper seat is, still there is a lack of the requisite exercises to give a man stability and confidence. The instructing of men properly, is one of the greatest needs that exist in our mounted service. More attention must be paid to the first instruction. To that end, riding-halls should be built at the larger permanent cavalry posts, and some different course adopted for teaching the men.

Build up from the groundwork, first principles, in a thorough manner, and the fruits will appear in better and more fearless riders, with an easy and graceful seat. Sore backs will be a thing of the past, and the cavalry troop will be rendered more serviceable at times when it otherwise would not be in proper condition. Beyond all this is the greater confidence of the captain, and so on upward to the head of the regiment, the colonel. Three such regiments for a brigade, two brigades for a division, and two divisions for a cavalry corps, would give a great leader of cavalry rich material for any enterprise. It would give him that confidence which is the first requisite for success in all undertakings. The result would be strong proof of a thoroughly good system in teaching men how to become expert horsemen.

This is one of the necessities for our future and careful consideration, if we wish to raise the standard and efficiency of the cavalry service.

GEN. RODENBOUGH (Colonel U. S. A.):—As one whose active military career was principally passed in the Cavalry service, and who has always felt a deep interest in the subject under discussion, I ask the indulgence of the Meeting.²

Much that affects the efficiency of mounted troops on the frontier also bears directly upon their value in more extended operations, where the enemy may be civilized instead of savage. The same public expenditure that prepares the Cavalry for present service on the Plains, may cover its instruction and equipment for another and future field to which none can confidently say it may not soon be ordered.

And it is this thorough preparation—for possibilities as well as probabilities—which seems to me the greatest necessity of our Cavalry.

In the early days the cavalry soldier of the United States was a model horseman, a dexterous and dangerous swordsman, and of a military intelligence, discipline, and self-reliance so rare, that a Provost Marshal General of the Army of the Potomac once said: "If you take those enlisted men away from me, I must have officers in their stead"; and we all know how well many of those sergeants and corporals deserved the commissions which they subsequently received.

A distinguished officer, who was present at several drills of the Second Dragoons at Fort Jesup, in the Spring of 1843, and who saw them charge in line with lances,

¹ Instructor in Cavalry Tactics, U.S.M.A., West Point.

² These Notes were prepared before the Meeting as a contribution to the Discussion.

stated that the compactness and precision of their alignments at the gallop, and in coming to a "halt" from "the charge," were equal to the performances of the best mounted troops of England and France, from which countries he had just returned.

Then, as now, our Cavalry alternately fought and watched the Indian. Then, (but seldom now) the sabre was often used in action, and always on drill. Then, but not now, the *majority* of the Cavalry used their weapons with equal facility mounted or on foot.

Many of you will recollect, how in 1861 came the sudden need of mounted men by tens of thousands; no time for "setting up" or the riding-hall, but in many instances herds of green horses were turned over to car-loads of recruits, to most of whom a saddle was a mystery if not a torture. Regiments and brigades of so-called cavalry were sent into the field, and those who survived the rough initiation were moulded into that famous Mounted Infantry, of which an able English critic says: "The example set by the Americans and followed by the Russians will probably become a rule of war." This wonderful result could hardly have been possible without the aid of so many "old-time" dragoons as instructors. Of course there are equally efficient and well-trained cavalry-men to-day, but they are in the minority.

Colonel Sumner¹ says there exists a lamentable deficiency in knowledge of *horsemanship*, and proposes the best remedy—in a country where the saddle does not early follow the cradle. Lieut. Bigelow has recently and conclusively shown that the *sabre* cannot yet be discarded; but no one asserts that many cavalry-men are expert in the use of that weapon. Other cavalry officers bear witness to the impediments to instruction of men who, after months of absence from drill on "extra duty," are suddenly returned to their companies for inspection or a scout.

Whilst there has been this decline in mounted training it is especially gratifying to note the improvement in dismounted instruction. The marksmanship of our trooper makes him more formidable than ever in fighting on foot; he is a better temporary substitute for infantry perhaps than in 1864 when (at Cold Harbor) the Regular Brigade, dismounted, protected solely by a few fence rails, and partially armed with Spencer magazine carbines, repulsed three times its strength of well-seasoned infantry; but that was at short range and your carbine, to-day, must disable at longer distance.

Col. Brackenbury, R. A., in a paper on "The Latest Development of the Tactics of the Three Arms," says: "There is no tendency to count the days of cavalry charges on a field of battle as numbered; on the contrary, there exists everywhere a disposition to make more of the opportunities which constantly occur, when the enemy's troops are broken and demoralized, or when their attention is occupied by an infantry attack and cavalry can throw its weight in the scale. The latest instance was the charge at Kassassin; small as was the scale, the principle was grandly illustrated." On the other hand, he says: "So impressed were the Russians by the value of their dismounted cavalry work, that they are doing away with hussars and lancers, and turning them into dragoons who practise assiduously fighting on foot. There seems to be an idea in this country (England) that such work will spoil cavalry. It would be difficult to say why, especially since raiding work, including often, no doubt, the attack on infantry of not the highest calibre, is now recognized as one of the highest functions of cavalry. * * * I was present at, I believe, almost the only really important actions of dismounted cavalry which have taken place in Europe in modern times; that is to say, during the first advance of the Russian cavalry over the Balkans under Gen. Gourko. There were about ten thousand men altogether, a large proportion of them being cavalry. We penetrated from the Danube through the Balkans, perfectly alone, as first a cavalry advance, then a flying column, and went right into the middle of the

* Major Fifth Cavalry.

Turks. I saw the dismounted cavalry capture Tirmova, defended by three thousand infantry and several guns. Again, they captured Kasunlyk, acting on foot; and over and over again I saw excellent work done by dismounted cavalry."

Another writer¹ says: "Since the Franco-Prussian war, when France employed 40,000 cavalry, and Prussia 54,000, all European nations have been making decided strides toward the end of combining the duties of mounted marksmen and cavalry. English cavalry go through an annual course of musketry with a Martini-Henry carbine sighted up to 1,000 yards, and recently an order has been issued from the Horse Guards that cavalry officers are to go through a course of musketry at Hythe."

These quotations express the world-wide interest in the point under consideration—the necessities and possibilities of the military horseman. The possibilities almost amount to the creation of a new tactical Arm, or at least of a force combining the most formidable and irresistible qualities of two Arms of Service.

Now, if with this millstone of half-instruction about their necks our Cavalry have done so much, what extraordinary results might follow a complete development of the military qualities of man and horse?

It is said that "later tactics demand not only high discipline and training, but discipline of a much higher kind." The new school at Fort Leavenworth is in that direction, but the best results can hardly be reached with two Arms to instruct at the same post. Our cavalry-man should be trained like the Cossack, who, at eighteen, is put into a *preparatory class* to remain three years, when he is sent into the field. He is then expected to be more formidable in single combat, a better rider across country, more skilful as a partisan or scout, than the regular Russian cavalry-man, whilst he is at the same time his equal in fighting-on-foot.

If our Army is small, is it not true economy to improve its quality to the utmost; and if we have led the world (without regard to expense) in our use of dismounted cavalry, shall we not keep the advance (without increased expenditure) by a complete development of the mounted principle?

Above all, reduce the extra and daily duty to a minimum; encourage steeple-chasing and polo-playing, and recognize and reward the hard and constant service of our Cavalry on the Frontier by exemption from every thing calculated to interfere with its military improvement.

COL. ROYALL² (4th Cavalry):—More might be said illustrating the services rendered and the results achieved mainly by the Cavalry arm of the Service within the past eight years. Before then the country north of the Platte River was in the possession of the hostile Sioux. A white man could not cross that river except at the imminent peril of his scalp. Now the entire country from the North Platte to the "Yellowstone" is open to settlers, and there are farms on the "Tongue" River and its tributaries, along the "Big Horn," "Little Big Horn," and the "Little Missouri" and its tributaries. The arable land is nearly all taken up by actual settlers, and that portion not susceptible of cultivation is utilized as pasture for vast herds of cattle and flocks of sheep.

For this revolution we are indebted to the United States Army, and the moneys expended for its support are returned to the Government an hundred-fold; but these results have been accomplished through many hardships and great endurance; hunger, thirst, cold, and wet were the portion of those who participated in this work, and many are sufferers from diseases incident to exposure in cold climates with insufficient protection.

¹ Lieut. Hamilton, 14th Hussars. (*Journal Royal U. S. Institution.*)

² MS. from Fort Bayard, N. M.

Our cavalry *horses* are not as good as they were before the war. Prior to 1860 all horses purchased for the cavalry were, in a measure, of good blood. Our Western farmers are now raising more or less the Clydesdale and Norman horse, and it is difficult to buy horses for the cavalry in which the taint of those breeds does not crop out, either in heavy limb or big foot. This sort of stock is most remunerative to the farmer, as large, clumsy horses bring more in the market for draft purposes than the better bred and more finely proportioned horse, and the cavalry horse of the future must be sought in those sections of the country where more attention is paid to the finer breed of animals. My experience of over thirty years with cavalry convinces me that the horse well bred up—half or three quarters, or even more—stands hardships and thrives on the prairie grass as well, if not better, than the coarser breeds. I have seen the first-mentioned class come into camp hardly able to stand up, yet start off in the morning and travel from day to day, when the coarser breed with less spirit would lie down and die.

I am not a believer in the heavy *cavalry bit*, as a rule; the horse resists and fights it; he feels the pain it inflicts, and his instinct teaches him no better than to bear on it.

The *saddle* is fair, but might be improved by making the cantle a little more sloping, which would give more room and comfort to the seat.

If more time were given to *horsemanship* and the training of cavalry horses, and less to target practice, our men would be more worthy the name of cavalry-men; especially if the *Bancher* system were introduced and partially followed. I do not deem it necessary to educate a horse to trot and gallop backward; but let us educate him enough to supple his jaws and the muscles of his neck.

I do not wish it supposed I am opposed to *target practice*; but I do believe it to be a hobby which is carried to excess. Not many years ago the men were not allowed to fire at all, and every cartridge they could not account for was charged on the muster-rolls at two and a half cents. On the other extreme, now it is made a burden, and consumes much of the time which should be given to horsemanship.

LIEUT. BIGELOW (10th Cavalry):—The great want of our Cavalry, as of our whole Army, is a *purpose*,—if not actual, then prospective; and, if not actually prospective, then assumably so. In default of fighting to do now, our Cavalry wants to know what fighting it will have to do next, and when it will have to do it; and, in default of that knowledge, it needs to assume a prospect sufficiently near and clear to impel and to guide it toward it.

One can hardly doubt, that Gen. Sherman is right in regarding the Indians as "substantially eliminated from the problem of the Army"; and Col. Brackett, in corroborating him with the assertion that the trooper is called upon to shield "the red man from the cupidity of the border settlers instead of crowding him, as formerly, to the wall." The protection of the Indians from the Whites does not meet the want that I allege, as it concerns but a fraction of our Cavalry, and is, moreover, from its nature, unworthy of consideration by any portion of it as its *purpose*. Nothing will meet this want but war, or the prospect of war—actual or assumed.

Other work than waging war may incidentally devolve upon an Army without derogating from its dignity or efficiency, but when other work is its only work, and the only one for which it is fitted, the so-called Army is but a police force.

Preserving the peace is not preparing for war, and to prepare for war should, in time of peace, be the constant effort of our Cavalry. This preparation awakens and preserves in it the apprehension of war, without which there is no efficiency. For be-

ing in time of peace its only *raison d'être*, this apprehension is to an Army the basis of self-respect; and professional self-respect—the surface of which constitutes professional pride,—is the mother-earth of professional zeal, of which efficiency is the fruit.

SYNOPSIS OF THE DISCUSSION.

ARMY, OUR. Gen. Sherman.

CAVALRY, OUR. Gen. Sherman.

Armament. Price, Carpenter.

Concentration. Sumner (S. S.), Price, Davis.

Campaigning. Stone, Cooke, Viele, Henry, Wint, Sumner (S. S.), Royall.

Clothing. Viele, Carpenter, Wint, Davies.

Duties. Forsyth, Sumner (E. V.).

Equipment. Henry, Carpenter, Davies, Davis, Royall.

Extra Duty. Henry, Price, Carpenter, Sumner (E. V.).

Horses. Cooke, Henry, Price, Carpenter, Davies, Royall.

Horsemanship. Price, Carpenter, Merrill, Augur, Rodenbough, Royall.

Instruction. Price, Carpenter, Davis, Rodenbough, Royall.

Old Soldiers. Sumner (E. V.), Rodenbough.

Organization. Forsyth, Augur.

Pay. Henry, Carpenter.

Purpose. Bigelow.

Recreation. Price, Rodenbough.

Recruiting. Stone, Viele, Price, Carpenter, Sumner (E. V.), Davis.

Tactics. Price, Carpenter, Davis, Merrill.

CAVALRY, FOREIGN. Stone, Rodenbough.

ERRA TUM.—In line 21, page 406, the word "Bancher" should read *Baucher*.

MARTIAL LAW IN INSURRECTION AND REBELLION.*

BY BVT. LIEUT.-COLONEL ROBERT N. SCOTT,
MAJOR THIRD ARTILLERY.

"Inter arma silent leges."

"NO practical systems of law are so perfect as to point out beforehand those eccentric remedies which national emergency will dictate and justify."—(Blackstone.)

"MARTIAL LAW (at home or in foreign parts) is simply military authority exercised in accordance with the laws and usages of war." (G. O. No. 100, A. G. O., 1863). In other words it inheres to the Law of Nations, and is, therefore, recognized by the Constitution.—See clause (2d Article 1, § 8) granting to Congress the power "to define and punish offenses against the law of nations." Moreover, the *suspension of the privilege of the writ of Habeas Corpus* is an essential feature of domestic martial law; and, clearly, but by whom not so clearly, this privilege may be suspended in cases of rebellion or invasion,—Art. 1, § 9, clause 2. Again, in the Fifth Amendment, cases "arising in" (that is to say, surrounded by, or not outside of) the land or naval forces, etc., are outlawed from the safeguards attending civil jurisdiction. Notice that the exception is of "*cases arising in*," not in cases of *persons belonging to*, the land and naval forces, etc. Otherwise where is the constitutional authority, unless in its recognition of martial law, for the trial by military tribunals of spies, guerilla marauders, those corresponding with the enemy, etc.? (See Articles of War 45, 46, 105, and § 1343, R. S.)

MILITARY COMMISSIONS derive their jurisdiction from the common law of war, and these tribunals have been recognized by acts of Congress and by decisions of the United States Courts.

* See "Riots in Cities and their Suppression;" page 335.

THE CONSTITUTION, and the act of February 28, 1795, clearly recognize the right of a State to keep troops, and, therefore, to use them, in time of war.—See Const., Art. I, § 10, clause 2; and notice in the act cited (R. S. § 5297) that in case of an insurrection in any State, against the government thereof, “the President’s power to call forth the militia is limited to requisitions upon any ‘*other State or States*’ than the one in which the insurrection exists.” This restriction must contemplate the use in the troubled State of its own militia under the State authorities.

THE SUPREME COURT of the United States decided in the case of *Luther v. Borden* (7th Howard, or 17th Curtis Dec.) that the government of a State had an unquestionable right to employ military force, and, *through its legislature*, to declare martial law, for the purpose of putting down an insurrection too strong to be controlled by the civil authority. Judge Woodbury dissented from the opinion of the court, holding, among other objections, that a declaration of martial law was an act of war that had been delegated to Congress by the Constitution.

That in times of urgent peril the *United States*, or any one of the *States*, each in its appropriate sphere of sovereignty, may seek safety in a suspension, wholly or in part, of civil jurisdiction, and in the exercise of all the rigors of martial law, is at this period of our history hardly a matter of serious controversy. But the important question yet remains as to which branch of the governing power can exercise this prerogative—the legislative or executive? And, if the latter, whether the power is to be exercised only by the Chief Magistrate; or by military commanders, either with or without delegation of authority from him. If the theory be correct, that the declaration of martial law is simply the publication of the fact that the force of circumstances has paralyzed the civil authority, it would seem but reasonable that the proper authority to announce that fact would be that first cognizant of the emergency, and *that* could rarely, if ever, be the legislative branch of the government. Under this theory the suspension of civil jurisdiction over an extended area of territory would more properly be proclaimed by the Chief Executive; while within the spheres of actual military operations the military commanders should, if public notice were deemed necessary, announce the fact. It would be most unfortunate if the only authority competent to invoke the war power of the government

was its Legislature; or in fact any disputative assembly; for, obviously, any circumstances that would justify such extreme measures would demand an instantaneous application of the remedy. Martial law has been declared in this country both by General Officers, commanding Military Departments, or in the field, and by the President himself; but in no case has such declaration ever been made by Congress, and it is believed Rhode Island furnishes the only instance in which a State Legislature has taken such action, except by implication.

The fact that during one phase of the recent disturbances in Pennsylvania the Governor contemplated a declaration of martial law, suggested two questions: 1st, whether, having invoked the assistance of a superior sovereignty, he could with propriety issue such proclamation; and, 2dly, how the establishment of martial law by State authority would affect the military establishment and the civil jurisdiction of the United States within the prescribed territory. To these it may be answered: 1st, that the Governor in obtaining assistance from the General Government escaped none of the responsibilities, and, therefore, lost none of the authority, of his office. [But see R. S. § 5300.] His responsibility for proclaiming martial law would be to the State, and until such action had been pronounced unlawful by that authority, it would be recognized by the General Government. 2dly, that, though the State troops, and those of the United States were independent of each other, the order for us to co-operate with the State authorities involved the recognition of such measures, not palpably unlawful, as the chief executive of the State might deem necessary to the end in view. His proclamation could not suspend the operation of the laws of the United States, and the result of such action would have been advantageous to the troops, as furnishing subsequent protection against civil suits, or criminal prosecution, for acts unlawful under the civil code.—See pars. 1081, 1087, Scott's Digest.

An objection to this theory, that the proclamation and exercise of martial law is appropriate to the executive branches of the government, may perhaps be drawn from the fact that the current of judicial and professional opinion in our country favors the view that the privilege of the writ of *Habeas Corpus* can be suspended only by an act of the Legislature.—See cases cited by Mr. Dwight in "Johnson's Cyclopædia," vol. 2, p. 752; and the Constitutions and Charters of the several States ratifying the

Constitution of the United States. If effect can thus only be given to martial law, the substitution of that for the civil code must be considered as a legislative act, and, therefore, would have to be preceded by due publication. The Constitutional clause on this subject certainly appears from the context to be a limitation upon Congress, and that body has repeatedly exercised authority over the subject. In 1807 it refused, by an overwhelming vote in the House, to suspend the writ for three months; and in 1863 and in 1871 it delegated to the President authority, under certain conditions, to suspend the writ. But, on the other hand, the President, in 1861, delegated his assumed authority to suspend the writ to certain military commanders, and in 1862 himself proclaimed a general suspension of the privilege, as against certain persons, throughout the United States. Moreover, the execution of this writ had been resisted by the military in the Whiskey Insurrection (1794); during the development of "Burr's" conspiracy (1806-7); during the war of 1812-15; and in Jackson's campaign against the Seminoles (1817-18).

But, whether the proclamation of martial law is simply the statement of a fact already brought about by the logic of events, or is the substitution of that for the ordinary code of laws by act of the Legislature, or by edict or command from the executive officers of the government, must depend upon the circumstances of the case. The exercise of the law martial, at home, finds justification only in the axiom that "To save the country is paramount to all other considerations," and in some cases it may be found absolutely necessary, to this end, to suspend the local civil authority, because being in sympathy with the insurgents it is exercised with unusual vigor. Where judges, sheriffs, and prosecuting attorneys owe their offices to their neighbors, this is not an unlikely occurrence.

IN SHAY'S REBELLION (Massachusetts, 1786-7) the Governor assumed no authority to suspend the usual process of civil jurisdiction. In the first instance he called out the militia, causing it to act in subordination to the civil power. This action proving ineffectual, he convoked the Legislature (or General Court of Assembly) and submitted the condition of affairs to their consideration. That body first passed a riot act, then suspended the writ of Habeas Corpus, and finally declared, what had long been obvious, that a rebellion existed in that State.

Nowadays that declaration would be considered as establishing martial law, but General Lincoln, who was charged with putting down the rebellion, was enjoined to act in strict subordination to the civil authority, except when he met armed forces in the field.

IN THE WHISKEY INSURRECTION (1794), which was simply the cumulative violence of nearly four years' resistance to the laws of the United States; in which war in its most technical sense was actually waged against the General Government¹; and arson, burglary, highway robbery, and other felonies were added to the offences of riot, etc.; and for the suppression of which fifteen thousand militia were called into the field (from New Jersey, Maryland, Pennsylvania, and Virginia), martial law was neither proclaimed nor put into execution. In the correspondence between the President and the Governor of Pennsylvania, in reference to the suppression of this insurrection, it is clearly shown that the latter did not consider himself empowered either to declare martial law or suspend the writ of *Habeas Corpus*, under similar circumstances of insurrection, etc., against the State authority.—See *Am. State Papers*, vol. XX, pp. 97, 99. But the value of his opinion on this subject is not enhanced by his declaration in a subsequent letter that the militia if called out could only be used to *disperse* the insurgents.—See reply of Secretary of State, same vol. pp. 103-106.

The duties of the Army raised to put down this rebellion were by special direction of the President, confined "to the attacking and subduing of armed opponents to the law, and to the supporting and aiding of the civil officers in the execution of their duties," and the prisoners taken, though in arms, were either to be turned over to the civil authority "or admonished and sent home."

For a time the President exercised personal command over this Army, and upon quitting it he transferred the command of it to the Governor of Virginia.

IN THE SECOND PENNSYLVANIA INSURRECTION (1799), growing out of the house- and land-tax laws of Congress, acts, characterized by the President as "overt acts of levying war against the United States," were perpetrated. For the suppression of this outbreak volunteers were accepted by the President;

¹ On one occasion the insurgents attacked a detachment of regular troops that had been sent from Fort Pitt to protect the Inspector of Revenue, and compelled its surrender by burning them out of the house they were to defend.

a draft was made on the Pennsylvania militia; New Jersey was called upon to hold an additional force in readiness; and the regular troops from Carlisle, Fort Mifflin, New York City, and New Brunswick were ordered to report to Brigadier-General Macpherson of the Provisional Army,¹ "to be stationed where their services can produce the best effect, and employed if any circumstances should require their actual co-operation with the volunteers and militia."—(Am. S. P., vol. XX, p. 189.) But there was neither martial law nor the suspension of Habeas Corpus in the affair.

There was no law at that time authorizing the use of regular troops for the purposes indicated. The first statutory authority for like service is found in the act of 1807.

DURING THE "BURR CONSPIRACY" most of the arrests were made under warrant, etc., in due form of civilian law. Some arbitrary arrests were made by the military, but they were not recognized by the courts, and, as before stated, the House of Representatives refused to pass the Senate bill suspending the writ of Habeas Corpus.—(See *House Journal*, January, 1807.)

THE "INSURRECTIONARY COMBINATIONS IN THE NEIGHBORHOOD OF LAKE CHAMPLAIN" (1808) called forth a proclamation from President Jefferson, in which the military were ordered to make arrests, but were to turn the prisoners over to the civil authority.

IN DORR'S REBELLION (1842) there was no active interference on the part of the General Government, but the President recognized the "Charter Governor," and made preparations for supporting his authority. Knowledge of these facts caused Dorr and his adherents to discontinue armed opposition.

IN WASHINGTON TERRITORY, 1856-7, *Military* officers of the United States opposed a proclamation of martial law, issued by a civil Governor, on the ground that the emergency did not justify such action; and at Fort Steilacoom the United States Judge appealed to the military commandant for protection, in holding court, against the Governor's martial law.

¹ There is some doubt as to the status of Brigadier-General "McPherson." That he never belonged to the permanent Regular Army is quite certain, and his name does not appear, either in the official list of officers appointed in the Provisional Army, (Am. S. Papers, vol. XII, p. 147,) or in Gardner's list of our General Officers (Army Dictionary, p. 507). Moreover, that he was a militia officer would seem to be indicated by the nature and manner of the instructions to him, and the letter to the Governor of Pennsylvania about him, etc., from the Secretary of War (Am. S. P., vol. XX, p. 188); but in Gardner's Alphabetical Register appears the name of William McPherson, "Brigadier-General, 11 March 1799; disband, June, 1800."

IN THE THIRD PENNSYLVANIA INSURRECTION (1877), some things have been done by the military, that, questioned by the court, could hardly be justified on any other ground than that they were necessary acts of war: for example, putting conductors, engineers, and others connected with trains, under military guards; arresting citizens without warrant, taking them out of their counties, and confining them in unusual places; and, as at Scranton, the taking of prisoners forcibly from the custody of the civil authority. Moreover, unless the statute law of the State permits such action, the killing of rioters, unless they were in the very act of committing some crime that was felony under the Common Law, or, having committed such crime, were resisting arrest, is justifiable only under martial law.

“LEVYING WAR.” See Burr’s trial, and last par. G. O. 100, A. G. O., 1863.

The Secretary of State (Randolph) in 1794 expressed, presumably, the opinion of President Washington, that combinations confined to “‘associations not to comply with the laws,’ though supported by riot, assassination, and murders, and by a general spirit in a part of the community which may baffle the ordinary judiciary means [acting] with no other aid than the posse comitatus,” and which might “even require the stationing of military force for a time to awe the spirit of riot and countenance the magistrates and officers in the execution of their duty,” *did not amount to insurrection.* (Am. S. P. vol. XX, pp. 103-106.)

FORT ONTARIO, N. Y., }
Sept. 30, 1877. }

NOTE by J. B. F.—In a work entitled “Remarks on Military Law” (London, 1837), Major-General Charles James Napier, C. B., says

“OF RIOTS”:

The more I see of my profession, the more I am convinced that our Code ought to be wholly unconnected with the ordinary courts of justice; and that it cannot, under any circumstances, act advantageously in union with the latter. The more we become lawyers, the less we are soldiers; therefore, my object in this chapter is to show:

That, in riots, the civil and military powers should not act together.

That the civil magistrate should act with his constables under his own Code, till he can act no longer.

That then the military magistrate should act with *his* force and under *his* Code.

That the whole responsibility of calling in the aid of troops should rest with the civil magistrate; but

That, when he had once assumed this responsibility, there his power should end, and the command be transferred to the military magistrate, who should be responsible to the Military Code or to Parliament, and not be liable to trial by the ordinary courts of justice for any thing he may do in executing the duty imposed upon him by the civil magistrate—namely, to quell the riot.

* * * * *

When a riot takes place, and the troops are called out, the greatest decision is necessary ; otherwise both the magistrate and the military officer try to throw the responsibility upon each other, till crowds collect, evil spirits are active, and, at last, blood is shed. The military officers are then blamed, and for what ? For not being clever, brave, cool, decided men, while acting under a degree of responsibility that ought not in justice to be thrown upon them ; in short, for not having qualities that, collectively, nature bestows upon a few, and but a few, gifted mortals ! This is their crime !

* * * * *

To call out the troops should be made a matter of far greater responsibility in a magistrate than seems to be the case at present ; for these doings often lead to revolutions ; and it is hard to believe that the fault does not, sometimes, begin with the violence, the imprudence, or the ignorance and vacillation of magistrates, who forget the homely proverb that "*a stitch in time saves nine.*" By a stitch I do not mean with a bayonet ; that is a rent, not a stitch. Forecast generally prevents riots ; firm conduct will often arrest their progress ; but when it becomes a matter of necessity to call out the troops, it should be recollected that it is weak, mischievous, unjust, to make them first bugbears and then savages ; which armed men, excited by great insults, soon become, for soldiers have feelings like other men. A magistrate should think of all this deeply.

On the other hand, the military officer, when once called upon, should have his conduct more defined : he should have less responsibility and be able to act boldly ; the time of remonstrance, of exhortation, of admonition, of entreaty, of calm consideration, of constitutional conduct, belonged to the magistrate. It has passed when the troops are called out, and the hour of action has then arrived. But let not *that* hour also pass in wavering and in folly, till the soldiers, hurt by missiles and insulted by undeserved abuse, become furious and create an hour of vengeance, which produces unnecessary slaughter and other terrible consequences.

* * * * *

I therefore repeat : make the calling out of troops to be a far more responsible action in a magistrate than at present ; and let the conduct of the officer when called out be more defined. Let it be *law* that being called out the soldiers are to use their arms at once ; let this be the law of the land and publicly known, and then the soldiers will know how to act ; they will turn out with their minds prepared. The Government has a right to expect the troops to bear some insult from a mob ; strength should not be waspish and put forth to act hastily ; but a definite period for this passive endurance of attacks should be fixed by law, and would thus be more readily borne. A foreknowledge of the law will also produce discussion ; therefore, whatever force may be required, will be applied with a calm, pre-formed resolution to do what the law orders, and no more than the law orders ; whereas ignorance produces indecision at first and violence at last. If the law were thus defined, the rioters would also know what to expect ; and the silly spectators who stand gaping at such disturbances would deserve but little commiseration if they suffered ; the rioters have at least an object, but these spectators have none, and almost deserve the accidents that they meet with. Were my proposition adopted, the very appearance of troops would be a warning to such people, who would instantly disperse. What I propose, therefore, is to consider a riot as divided into three acts.

First.—The gathering of the people and probability of riot. The magistrate should now use all his powers to calm the public feeling, and should not attempt to bully the multitude in a moment of excitement, merely because he feels confident that soldiers are at hand to support him. Instead of this, he should endeavor, by every possible means, to soothe and calm popular violence, and if it be excited by the presence of an obnoxious individual, let him be removed till the storm abates. It is undignified first to provoke a mob and then escape up a chimney : no man is very fit to rule, who provokes a violence that he cannot combat ; or a violence with which to combat does more evil than good. But would you let the law be broken ? I answer Yes ! I would

rather see a few mischievous men make a slight breach in the law (men that the law can afterward punish), and which breach soon disappears and is forgotten, than myself break the law to pieces by firing on the people ; an action not only sanguinary in itself, but that rankles in the minds of men for years, and by which the innocent and foolish suffer more than the guilty. It is more fearful to see the law broken by a magistrate than by a mob.

Up to a certain point, the magistrates and their constables, and all their well-disposed fellow-citizens, ought to act with vigor (but with gentleness, the proper companion of vigor), calmness, and patience ; thereby to remove the cause of irritation, and to tranquillize the multitude.

* * * * *

This I call the first act.

Second.—If all this be ineffectual ; if no reason be heard ; if the law be set at defiance ; if the magisterial eloquence has no effect upon the reasonable part of the crowd, and the constable's staff none upon the heads of the unreasonable ; if the public safety becomes endangered ; *then* the greater force must be used. This may be called the second act of a riot. The magistrate now orders the church bells to toll the alarm, and says to the military officer : "Sir, the law is at an end ; the public safety is no longer protected by it. I order you in the name of the law, to quell this riot with your troops." Here, as before said, the civil magistrate's power ought to end, and that of the military magistrate to begin. The officer should now order his men to "prime and load." He should say to the rioters : "The law, as you all well know, directs me to attack you ; I give you a few minutes, make use of this time to disperse." The time being elapsed, he should advance, himself and his men being tranquil and cool, resolved to execute the law and quell the riot.

The *Third* act of the riot should be, the public trial of the magistrate by Parliament.

If it be proved that he acted as became an English magistrate, and that he had not called out the troops till it was impossible to do otherwise, he ought to receive public thanks.

If, on the contrary, it appeared that he took this terrible step lightly, he ought to receive condign punishment. These are cases in which gross errors in judgment admit of no excuse ; a man should not become a magistrate if he is unequal to the duties which the office entails, and he must submit to the consequences.

Besides these three acts in such sad tragedies, there is (but ought *not* to be) a *fourth*, which the present undefined state of things creates. It is the hour of vacillation, confusion, insult to the troops, opportunity to the wicked, temptation to the idle ; it is the time between that in which the soldiers are brought upon the stage and the time when they act ; the time during which, tormented like Spanish bulls for the fight, they are so roused by repeated and unprovoked insults, that their anger can hardly be contained, and at last, being let loose, they do not assert the integrity of the law so much as they avenge their own wrongs.

* * * * *

A magistrate's duty is to govern his fellow-citizens ; he voluntarily invests himself with this responsibility ; he is personally acquainted with his neighbors ; he knows all their habits, feelings, and intrigues. But the case of the officer is quite otherwise ; he becomes a soldier to fight foreign enemies, not to fight his countrymen ; he is a stranger to the local feelings of the place ; he is probably young and inexperienced ; he knows not whether the violent conduct of the magistrate has or has not produced the riot. If he fancies it has, he thinks that he may repair the evil, and in trying to temporize possibly does the harm he wishes to avoid. He is told that the "Riot Act" has been read and that he must quell the riot, "*but not yet.*" There he stands by the side of the magistrate, himself and his men maltreated and pelted with stones, enduring all sorts of unprovoked abuse, yet afraid to act lest he should do so "unconstitutionally" and get hanged. He is brave enough if you tell him what he should do : he will "*bear and forbear*" to the loss of life if the law so wills it ; but he now knows not what the law wills, nor always what the magistrate wills.

* * * * *

It may be, and is, very proper to bring officers to courts-martial if they act *wrongly* ; but it is surely just to lay down rules by which officers may judge how to act *rightly*.

* * * * *

In riots, the civil and military authorities are brought by law into conjunction, and there left to get out of the scrape as they can ; instead of the duties of the one being defined up to a certain point, when the duties of the other should begin, so that neither may be placed in a false position. But as things are, the soldier has all the responsibility, while, at the same time, no precise power is confided to him, no line of conduct defined for his guidance. Therefore, when some violent transaction takes place, he is left to himself and is expected to be at once lawyer, soldier, magistrate, patriot, executioner ; and to be brilliant in all ! The man goes to work in perfect darkness. He knows not whether he ought to obey the magistrate, or disobey him ; to fire, or not to fire ; to let his soldiers be knocked down, or knock other men down. His thoughts dwell upon the (to him) most interesting question : " Shall I be shot for my forbearance by a court-martial, or hanged for over-zeal by a jury ? "

* * * * *

Let the officer when called out, act for himself in applying the law ; and let magistrates not dare to call out troops till they are prepared to see bloodshed and to answer for it at their peril. I am well aware that the whole question is one of great difficulty ; for which reason I think it ought to be more discussed, so that all may not be left in doubt, with troubles gathering in a mass, to be dealt with by a captain of dragoons—at a moment, too, when in any case, and however defined the law may be, his situation must be sufficiently painful and hazardous.

I have thought it good to discuss this matter here, as it helps to prove my assertion, that it would be better to keep civil and military affairs distinct. If soldiers offend, individually, against social law, it is just that social law should punish them. If soldiers offend against military law, to military law let them be amenable ; but do not make military courts of justice amenable to social courts ; it is confusion, not justice.

* * * * *

The crime, on these occasions, rests always with either the *magistrate* or the *rioters* ; for by either the one or the other the soldier is brought upon the stage ; *he never appears there of his own accord*. If he acts with cruelty he ought to be punished ; but that is another question. The original sin of bringing him upon the stage still rests with either the magistrate or the rioters. The responsibility of the magistrate is great ; it is unavoidably so ; and he is, therefore, selected as a man whose personal qualifications and whose position in the country are supposed to fit him for the trial. But the officer has not these advantages ; he is placed there by hazard ; he ought to be competent to use the force under his command ; *how to use this force* is his trade ; but it is not his trade to decide *when* it should be used against his countrymen. He may play the part of the druggist, but that of the physician appertains to the magistrate.

KRIEGSSPIEL OF VINTURINUS.

ADAPTED FROM THE GERMAN BY CAPTAIN J. J. O'CONNELL, 1ST INFANTRY.

IN times of peace Kriegsspiel holds a prominent place among the amusements of our officers. It is practised in the highest military circles both here and on the Continent, princes of the imperial household and chiefs of departments being proficient in it. The word *spiel* (play) may perhaps lead the uninitiated to a false conception of Kriegsspiel. It is not a play in the common acceptation of the word, but in reality a profound study. It is the representation of Field Campaigning on paper, whereby a correct estimate of results may be attained. By this method of fighting, the proper disposition and manoeuvring of troops may be readily apprehended, and it is an admirable preparation for actual warfare. War is now reduced to a science, battles are fought and won, troops moved like chessmen, according to preconceived plans. Skill in meeting sudden emergencies can hardly be represented on paper, for they are subject to constant change; nor can the moral factor, which plays the chief rôle in determining the tide of battle. This admirable game is subject to one disadvantage. The player is necessarily compelled to adopt a regular mode of procedure, and can only produce an approximate result; the tendency of this is to sink into routine—to become the slave of rules. But it is a sudden emergency, an unforeseen event, that most often effect decisive results and demand the ablest generalship, while from the game is learned only, what the genial Henry von Bülow satirically styles "the etiquette of the battle-field." The term Kriegsspiel has an historical origin. The fact is not widely known, that the last century was acquainted with a similar game: "Warchessplay," the object of which was to accustom the novice to certain rules that obtained on the movement of troops, and which were considered indispensable. In those days the subsistence department of the Army—its numerous flour and bread wagons—admitted of only a few marches in one direction, when a halt must be made, a new base of supplies be won, and a fresh train of wagons provided. The theory of subsistence was more artificial than practical. Illustrious commanders, such as Frederick the Great, knew how to supply their armies by more natural methods. The cumbersome machinery, however, held sway until the close of the last century. Every opportunity was utilized to invest the science of war with a mystic garment. A philosophical epoch had arrived. The cadets of the Berlin Military Academy discussed Kant's Metaphysics. The pursuit of abstruse subjects was universal. Exact science was brought to bear upon every phase of military detail. It was believed that the simplest thing could not be perfected without an immense amount of erudition. A new science came into vogue—Military Mathematics.

The opinion prevailed that a military leader must, above all things, be a great calculator. Mathematical knowledge now became the criterion of a leader's merit. The science of measurement was acknowledged to be an essential factor in his qualifi-

cations. The Romans suddenly lost caste in the military world. Captain Roesh of Wirtemburg demonstrated, in a discourse at Carlsruhe, that the Greeks were the real military people of antiquity. The Romans, he argued, knew nothing of mensuration; the Greeks, on the contrary, regarded war with a mathematical eye, as Newton did nature. In the struggle for patriotism and liberty they knew how to gauge the measure of their strength, while others sought only to kill or to avoid death. Not only did military men open their arms to the new departure, the savans did likewise. Learned professors wrote on military science and the practical application of mathematics to war. The science of war was raised to a place in the curriculum of the most renowned seats of learning. The enthusiasm with which military gentlemen pursued it may be inferred from the fact that an officer of the Berlin Army Club, wrote a treatise on Oblique Deployments, considered from a logistic point of view, and many similar dissertations appeared at that time on kindred topics. Frederick the Great, like many another genius, often acted in direct opposition to what he had written. He, the boldest of the bold, recommended prudence and reflection. Many of his maxims savor strongly of routine. His disciples were very much astonished at the equanimity with which he disregarded the pedantry of war, in moments of the sorest despair, during the Seven Years' conflict. This could not be understood by the blind generation that succeeded him.

It was necessary that a Clausewitz should appear, to explain that there was no higher wisdom than his on such critical occasions. Frederick's contemporaries wondered at his luck and shuddered at his unscientific and irregular method of operations. Massenbach, the Prussian Mack, who acquired an unenviable reputation by the accursed rôle played by him in 1806, used the following language in the Military Club of Berlin: "Frederick was a genius therefore he should not be taken as a model, because to genius is permitted what is denied to the common herd of humanity. The real leaders of that age are Prince Henry and Duke Ferdinand of Brunswick, in whose often apparently lukewarm but systematic and always consistent conduct the highest wisdom and art are to be discovered." The tendency of this baleful opinion, in which mental poverty struggled with blindness, was toward the most deplorable results. A logical consequence was the French Revolution. Its adherents conceded the success of the French arms, but consoled themselves by declaring that science gained nothing thereby. Battles were no longer fought from motives of patriotism, but for art's sake, and it was deemed preferable to forego victory rather than achieve it by unscientific methods. This theory prevailed until Napoleon appeared and shattered it to pieces with his gigantic blows. Blücher, too, helped to hammer it out of existence, and he was brought to the front by the better necessities of the times. The "New Kriegsspiel" of Vinturinus was a characteristic production of the era succeeding Frederick. It appeared first in 1795, in the *Bellona Military Gazette*, and attracted much attention, and again, in the same paper, in 1804, greatly enlarged and improved. Vinturinus was considered by his age a clever military writer, who possessed the merit of honesty of conviction, but whose style was most capricious and mythical, for his vagaries could be applied in any direction, or his theories adopted with the greatest pliability to the *most varied* circumstances. The second edition of his Kriegsspiel saw the end of his labors, for he died shortly after it was put in the hands of the printer, not surviving to see the copy. In the preface to this edition, written by himself, he expresses himself with much feeling as follows: "I labored indefatigably for years on the first edition, convinced that my invention was the only means of developing the ideas of a student in a systematic and rational manner, and that it was the only medium of conveying lucid and comprehensive impressions, without extraordinary effort on his part, of the *modus operandi*, reciprocal combinations, organization, and strategy appli-

cable to great military operations. May this work effect its object, for it has cost me more labor and time than has any other work that I have before undertaken." Vinturinus could never fully get rid of the idea of "Warchessplay." He chose the vicinity of the present Franco-Belgian border as the theatre of his operations. The cities of Courtray and Cambrai marked the most northern and southern points, and Mons and Lille, the eastern and western. This area was divided into 3,600 squares, after the manner of a chess-board, every one of which is marked with a sign indicating its own peculiar characteristics. This occasions a complete distortion of the face of the country, for we have now only square lakes, rivers, mountains, and forests. Rivers are thus made to conform to the sides of squares. The natural features of the land are accurately described and indicated. Every city, town, village, and fort is located—whether situated on a plain or on a mountain, or elevation even of fifty to one hundred feet. The height and peculiarities of mountains and hills are likewise minutely noted.

Sixty closely-printed pages of rules serve as a guide to the bewildered traveller, through the labyrinth of Vinturinus' strategy. The side of the square, or 2,000 paces, is represented by one inch. The armies of the opposing sides are divided into brigades, and each player receives as many as the line which forms his base intersects squares. The different arms are in the following proportion: Two thirds of the brigades are infantry, the remainder cavalry. To this original number are added half as many field-batteries as there are infantry brigades, a horse-battery to every cavalry brigade, a third as many siege-batteries as infantry brigades and as many wagon-trains as field- and horse-batteries taken together. Each Army is provided with a bakery capable of furnishing sufficient bread for one day. Four hundred wagons are allowed for its transportation. Each commander is also supplied with a small ponton bridge, fascines, magazines, storehouses, etc., so that the complete equipment of an Army in the field is faithfully imitated. Troops and the means of transportation are represented by painted and numbered figures. These are made with a vertical handle for facility of movement, and for hanging the ration signs. Before the game begins a screen divides the theatre of operations and the combatants. Behind it each player deploys his forces and prepares for action, according to a multitude of pedantically constructed rules which are rigorously to be observed. The preliminary arrangements being completed, the screen falls and the battle begins. Forty-eight marches on either side constitute a campaign, which is to last twelve months,—four marches per month. The order of battle, position of troops, formation and direction of the front line are strictly regulated. If a brigade makes but three consecutive marches on a public highway, during the months of January and February, it is considered "half-dead." Storehouses are represented by small boxes placed over cities and fortresses. They contain the necessary equipments and stores for one campaign. They are transported by small wagon-signs. Each troop-sign takes with it two days' rations. A fresh supply may be levied from the country which serves as the theatre of war. Thus the new departure—of living on the country—which the French Revolutionary Army first fully put into practice, held a footing in Vinturinus' Kriegsspiel. The system of requisitioning supplies was artificial and complicated. Cities were designated capital and provincial, and were considered indispensable to the departments of supply and government. If a provincial city was held by the enemy, the district towns within its jurisdiction furnished nothing, if a district town was similarly held the villages furnished nothing. Should the enemy succeed in occupying the capital the game was lost. If both capitals were simultaneously occupied respectively by the opposing armies the game was considered a draw.

Then follow the tactical laws for the manœuvring and marching of troops. Sev-

enteen miles are considered a day's march for infantry and field artillery, thirty-three for cavalry and horse-artillery, and nine for siege artillery. Wagon transportation was similarly regulated.

In winter, that is from November 1st to April 4th, only half marches could be made. The fighting of the figures is most curiously regulated. They are fought something like chessmen, but not as these with uniform effect. The casualties resulting from battle are classified as dead, wounded, and prisoners. "The wounded are what remain of the beaten figure, if none have been killed." All possible contingencies are provided for by the classification of different effects. The figures are formed in ranks in rear of one another, and can be fought only in this order; then, according to the superiority of power or position on either side, the party of the other is wholly or half killed or taken prisoner. The inventor took the greatest pains in calculating the comparative strength and results of cavalry and infantry charges, of infantry and artillery fire considered under a variety of conditions. He also worked out with astonishing accuracy their effect on material objects, such as towns, houses, barricades, walls, etc. He likewise formulated what troops are capable of performing when under cover or protected by a variety of hindrances. "A battalion can do, in a fortified pass, as much as a brigade in the open field." Vinturinus, through his mania for rules, often lost sight of the pith of his subject. We seldom meet in his Kriegsspiel a passage containing the practical good-sense of the following extract: "In the plan of attack, the first thing to be done is to discover the number and strength of the supporting corps of the enemy, the most effective way to thwart his concentrated attack, and the point in his flanks where an overwhelming force could be precipitated most speedily and effectively." Vinturinus died in the belief that he had bequeathed a great work to posterity, and indeed his game found many admirers. His work is a masterpiece of military acuteness, combined with technical and tactical absurdities. That age loved whatever appeared difficult or abstruse. Fine metaphysical distinctions, hair-splitting, were esteemed indispensable to celebrity, and alone worthy of the pursuit of the erudite. Kriegsspiel, in reality, was merely a play, a series of tricks, the utmost benefit of which could only be an acquaintance with conditions and principles which were regarded as essential in the management and maintenance of armies, and this was only to be gained at an infinite expense of useless cramming. A knowledge of the rules and principles required a long and attentive study, and even then their sense and origin often remained in obscurity. They evidently failed in their object—the intelligent development of the ideas of a student of the *art of war*,—a *science of war* as conceived by Vinturinus did not exist. Happily there was but little opportunity afforded for the practical illustration of his last Kriegsspiel. Hardly had a year elapsed after its appearance, when the bitter reality of war swept over Germany—that against Austria in 1805. This made an end of Kriegsspiel and its votaries; real war asserted its claims and stalked forth in its grim and devastating form, no longer bound and fettered by rules, precedents, and old customs, as it had been in the last century. The Muse of theory and Kriegsspiel returned to its old haunts only after the declaration of peace. Reitzwitz, a Prussian official and contemporary of Vinturinus, devoted much time and attention to Kriegsspiel about the beginning of that century. His son, a first lieutenant of a regiment of the guards and member of the artillery commission, inherited his father's predilection for the game and is the father of modern Kriegsspiel. It was his good fortune to find a distinguished patron in the present Emperor of Germany, at that time Prince William. The latter drew the attention of King William III. and Marshal Meffling to young Reitzwitz. Encouraged by these distinguished personages he issued a pamphlet on Kriegsspiel in 1824. This was circulated in the Army by royal command, and Kriegsspiel was introduced. Emperor Nicholas, then Archduke, at the

suggestion of Prince William invited Reitzwitz to St. Petersburg; Nicholas returned to Berlin in 1825 to practise the game. A very interesting match took place in which Prince William commanded on one side and Archduke Nicholas on the other. The plan of the field of operations embraced the territory between the Elbe and the Oder. A battle near Bautzen decided the game. Many foreign guests were present to witness the manœuvring. Among them was Marshal Marmont, who was so delighted with the game that he resolved to introduce it into France. The author became at once a famous man and the lion of the hour. Probably this was the cause of his ruin. A host of envious persons rose up against him. In 1826 he was relieved from certain duties by an order from the War Department, which he construed, although accompanied with promotion, into a sign of displeasure of his superiors.

He fell into a deep despondency and shot himself a year after being relieved. He justly deserves the credit of having made Kriegsspiel practical and useful, although it yet remained trammelled with many useless appendages, which were pruned off by more modern writers, such as Fschischwitz, Frotha, Mickel, and Vérdy. The game of Reitzwitz is an infinite improvement upon that of Vinturinus. When we look at the latter's artistically woven web of strategy, we ask ourselves how it was possible to construct such vagaries in a time of stern realities. It furnishes another proof of the difficulty of eradicating military customs once firmly grounded. They are eliminated only at the expense of much time and labor, and not unfrequently after sad and costly experience. Austria needed the defeat of 1866 to convince her of the superiority of the breech to the muzzle-loader, and France that of 1870, to prove the necessity of universal compulsory service in the ranks.

REVIEWS.

DODGE'S "BIRD'S-EYE VIEW OF OUR CIVIL WAR." *

Certainly, as far as form goes, this is what a book should be. Good print, good paper, generous margins that also note the year and month, sketches of the various fields of operation, and glossary and index, make up a very useful and attractive volume, which professedly encloses only a "skeleton" of events, with some original and a good deal of "gleaned" opinion.

It touches upon the political and social conditions out of which the war grew, as an inevitable step in the long process of the disengagement of the rights of man from class and race privilege. Both North and South, however, were ignorant of the character and purposes of one another, as curiously exemplified on the one hand by that speech in which Mr. Slidell took his leave of the Senate, and on the other by the numerous sixty-day prophecies with which the North met the Secession demonstrations. It was thought that tropical politics would soon effervesce and sink back into their old channels, as they might reasonably enough have done. For up to 1860, out of thirteen Presidents, the South had been given seven (7), exclusive of Buchanan and Pierce. Out of sixteen (16) Vice-Presidents, they secured seven (7), and twenty (20) out of thirty-six (36) Speakers of the House of Representatives—a proportion rendered all the more eccentric if length of term of office be taken into consideration, together with birthplace, and out of all manner of ratio to the population and revenue of that section of the country.

One or two instances of criticism may be alluded to, as where, with reference to the Federal operations in New Mexico, it is said "that the conduct of the Regulars did no justice to the splendid record they made for themselves during the war." There is so much more sugar than lemon in this punch that it seems unkind to complain; but at Valverde, at all events, General Canby wrote: "The battle was fought almost entirely by the Regular troops, with no assistance from the Militia, and but little from the Volunteers, who would not obey orders or obeyed them too late to be of any service."

Here, too, McRae and Mishler were killed at their guns, serving a battery of Artillery made up from the 2d and 3d U. S. Cavalry; and of the former, General Canby says: "He died as he had lived, an example of the best and highest qualities that man can possess."

General Roberts also reported that McRae's battery, though carried by the enemy, "was held with unexampled determination after the loss of every horse and more than half the gunners disabled."

No Regular has any need to blush at the story of his brothers in arms at Valverde. On the contrary, never anywhere was devotion to duty more finely illustrated. Here, truly, would it seem, were also "labors such as critics oftener impeach than perform," which is a very happy disposition of many a military Zoulius.

The twenty-second chapter draws a contrast between the soldiers of the North and

* "A Bird's-Eye View of our Civil War." By T. A. Dodge, U. S. Army. Boston: J. H. Osgood & Co.

South, to which no objection would be made by either. Dash and determination are each of them highly desirable, but ultimately in the domain of Venus, Mars, or Mercury, "it's dogged as does it." The one may begin with Marengo, the other winds up with Waterloo.

Of the Federal movement ending in the siege and capture of Vicksburg, it is said: "Altogether it has been a strange military manœuvre which success will justify—failure utterly condemn."

But it is difficult to see how the envelopment of the Confederates in this campaign varied so remarkably from other examples which are the stock-in-trade of the studious soldier, nor if a tramp finds a big dog on the front porch, is there any thing singular in its flanking the house and trying the back entry, nor even if driven ignominiously thence by Betsy and the broomstick, would it be any impeachment of his wisdom in originally avoiding the teeth of Brutus.

In the matter of the Red River campaign, at the battle of Sabine Cross Roads, it was mainly upon the Federal Cavalry, and not at all upon General Smith, that the first attack fell, which was finally checked by General Emory. The troops of General Smith were not brought into action until the next day, at Pleasant Hill, where he was by no means "badly worsted," but, instead, drove the enemy from the field.

This expedition was carried on with too great ignorance of the country, and too little respect for an opponent who had hitherto only seemed anxious to get out of the way.

But absolute correctness requires more fulness of statement than is consistent with a bird's-eye view, and this work, though nominally intended for a younger class of readers, will furnish pleasant and profitable employment to any of riper years.

It fixes locality, time, and number with sufficient accuracy, a matter not unworthy of note when there are biographies extant through which one would vainly search for any intimation of date and place of birth of the subject. It gives quite clearly the topography of the various theatres of action, in which not a few recent military essays are very deficient. And it delineates fairly enough most of the officers concerned, and adequately describes their means and plans. Author and printer have combined to make the examination of their work a very agreeable occupation. Defective type, diluted ink, crowded lines, flimsy paper, and slovenly binding are common enough to note and be thankful for this exception. The material of the work well serves to consolidate and orient the knowledge of what was done in the "Great Rebellion" and of those who did it.

To ensure a nicer perspective, place and time are combined in an "isochronochoric chart" that brings their respective coincidences into one view, and helps to co-ordinate the history from the evacuation of Harper's Ferry to the surrender of Mobile. Perhaps if the lay reader started with the notion of a geographical calendar he might be saved a reference to the nearest professor of Greek if he was curious in the matter of nomenclature.

H. W. C.

PHISTERER'S "REGULAR BRIGADE AT STONE RIVER." *

In 1861 the Line of the Regular Army consisted of four regiments of Artillery, five of Cavalry, and ten of Infantry. This force was almost lost to view amidst the large multitudes called out in the Rebellion, but its work was like that of the "leaven hid in three measures of meal." It is a matter much to be desired that the services of every portion of the Regular Contingent might also find a chronicler who would do them the simple justice of such a record as that now under review.

* "The Regular Brigade of the Fourteenth Army Corps in the Battle of Stone River or Murfreesboro', Tenn.," by Frederick Phisterer.

This, in some instances, is already attained by the Regimental Histories that have been a labor of love to officers here and there, whose reward is yet to come in the recognition of their efforts by the man who shall do for the "Great Rebellion" what Lossing has done for the lesser one of '76.

But—"Odi accipitrem qui semper vivit in armis"—in the return to health, which the work of the sword has secured, its need, like that of the surgeon's knife, is soon forgotten, and politician and preacher take up the old burden of *satrap and mercenary, idle and unprofitable servants*, with the well-worn moral drawn from Greece, Rome, and other rotten Commonwealths, which, by the way, died of national pyæmia simply because past all salvation, even by the sword, until suddenly the torch of the rioter lights up the landscape, dividends plunge headlong downward, and once more the "bold soldier boy" is hurried to the rescue, and met with hysterical welcome.

Meanwhile, let Cæsar write his Commentaries, and better yet let the Centurions jot down what they remember. These will be the classics of 1800 years hence.

Of the Regular Brigade of the 14th Army Corps at the battle of Stone River, 5 officers and 89 men were killed, 21 officers and 468 men were wounded, and 47 men were captured, an aggregate of 630 out of a total engaged of 1486.

That will do.

H. W. C.

PARKER'S "RECOLLECTIONS OF A NAVAL OFFICER." *

The recollections of most naval officers extending over a period of twenty-four years' service would make a very entertaining story, varied as they are by duty at home and abroad and contact with life of all sorts, whether among the gayeties of Genoa or the horrors of the slave trade.

From 1841 to 1865 there was certainly no lack of opportunity for seeing and doing in the United States Navy, and out of this large field has been gathered a great deal upon its men and events well worth perusal.

The midshipman and his mess, commodores and their caprice, the brig *Somers* and the iron-clad *Merrimac*, the Naval School and the Confederate Cabinet, the wanderings of these latter statesmen with the remnant of their treasure and a dim notion of a new Troy on the Rio Grande or Amazon, diversify the narrative and interest the reader, who can only close the book with a wish that Captain Parker's example might become more general, and that officers of both branches of a service now fast passing into younger hands would put upon record an experience which cannot fail to furnish many a valuable lesson for the exigencies that are always to be confronted.

"The times change, and we change with them." It may even be that on the earth of the future there shall rain

"A ghastly dew
From the nations' airy navies grappling in the central blue,"

but there will then also be only the greater need for all those high qualities displayed by the American sailor alike at Lake Erie and New Orleans, off Boston Harbor or the English Channel.

H. W. C.

PHISTERER'S "STATISTICAL RECORD OF THE ARMIES OF THE UNITED STATES."

The "Statistical Record of the Armies of the United States," by Frederick Phisterer, late Captain United States Army, now Colonel and Assistant Adjutant-General of the State of New York, published by Scribner's Sons, being a supplementary volume to their series of "Campaigns of the War of the Rebellion," making allowance for

* "Recollections of a Naval Officer," by Captain Wm. H. Parker. N. Y.: Scribner's Sons.

some inaccuracies, seemingly unavoidable in the preparation of the first edition of a work of this character, and which is well understood by authors who have undertaken the compilation of such material, presents to the student and general reader a remarkably convenient collection of important military data. Colonel Phisterer is well known as a painstaking compiler, careful and methodical in the preparation of statistical matter. It would be almost marvellous if no errors were to be found in a work of this character, but we have failed to discover any of sufficient importance to impair its value as a book of reference.

P.

RANDOL'S "LAST DAYS OF THE REBELLION."

"The Second N. Y. Cavalry (Harris' Light) at Appomattox Station and Appomattox, C.-H.," is the title of a spirited sketch by Col. Alanson M. Randol (formerly Colonel of that regiment), now Major First U. S. Artillery.

It is another brick in the grand historical edifice yet to be erected, and will aid in preserving to posterity the truth concerning brave deeds, which might otherwise be forgotten. The pamphlet is remarkably well printed, and is from the printing-office of the Presidio of San Francisco.

R.

TOWNSEND'S "ANECDOTES OF THE CIVIL WAR."

The modest title hardly prepares one for the valuable historical matter contained within the covers of this book.¹

The well-earned reputation of the author for accuracy—in the smallest detail—in any statement he might make, invests this record of personal reminiscence with exceptional public interest. As a confidential staff-officer of the General-in-Chief, Colonel Townsend witnessed the gathering war-cloud from a central and commanding eminence. As the Adjutant-General of the Army and Executive Officer of the War Department, during the administrations of six Secretaries of War, and especially during that of Mr. Stanton, General Townsend was the custodian of secrets not alone of State but of Society. The details of some of these are confided to the reader. General Scott's alternate peevishness and patriotic utterances, as well as his courage and wise precautions for the public safety; Mr. Lincoln's quaintness and honesty of purpose, an always pleasant theme; Stanton's less amiable if firmer qualities; illustrated by many incidents—part of which the author was, and all of which he saw,—make up a most picturesque narrative. Colonel R. E. Lee's "Last Interview with General Scott"; "Recollections of Evenings at General Headquarters"; the "Transfer of the Command of the Army in 1861"; "Army of the Potomac Changes"; the "'Ad Interim' Affair," etc., etc., are among the best chapters.

An ample appendix—containing official documents and personal correspondence, much of which has never before been in print—makes the volume valuable for reference. Its convenient size, excellent type and paper, and moderate cost render it a desirable addition to every military library, and within the means of every military student.

R.

¹ "Anecdotes of the Civil War in the United States." By Brevet Major-General E. D. Townsend, late Adjutant-General U. S. A. (Retired.) 12mo, 287 pp. Cloth, \$1.50 New York: D. Appleton & Co. 1884.

OUR EXCHANGES.

Giornale di Artiglieria e Genio¹ (Roma). We have before us of this valuable journal the numbers from January to August inclusive, and they contain much that is of interest. We will briefly refer to the following :

“ *Shelter for Field Artillery in Action*,” by Captain Cattaneo, of the artillery. This officer states, that opinions as regards the construction of shelter, when it can be done expeditiously, were never so contradictory as they are in the case of field artillery. Not only, he continues, in print, but also upon the field of battle, such a diversity of opinion has existed, that during the Franco-Prussian war of 1870-71, while many battery commanders assert to have derived the greatest benefit even from hastily constructed shelter for their pieces, others, to show their contempt or what little regard they entertained for such works, selected positions, during an action, right next to batteries thus sheltered. The Captain then reviews at length the arguments adduced in favor and against such constructions, of which some are as follows :

“ Brunner says, that it is necessary to make use of shelter for field artillery in order to insure the greatest possible efficiency to our own fire, provided these shelters are so constructed as not to interfere with the action of the pieces placed behind them.

“ In defensive battles, Hoffhauer says, that the construction of shelter is especially necessary, because batteries should be so placed as to conceal for the longest possible time the true line of battle, and to be such as to allow of the aiming with success against the enemy's artillery, bearing in mind, however, that such a shelter should, on no account, keep back a battery when the protection afforded does not correspond to the necessity of the moment.

“ The principal objections that artillerists offer to these shelters in the field are the following :

“ 1st. Earthworks of any kind offer a target to the enemy more plainly visible than pieces in battery without shelter.

“ 2d. Artillery behind shelter, being restricted to the narrowest intervals, offers a target so compact to an enemy as to make it fare worse under fire than when the pieces are placed in the open field with greater intervals.

“ 3d. Artillery placed behind epaulements enjoys much less freedom of action ; while manœuvres, and especially the advance movement, are rendered very difficult.

“ The first objection may be met by asserting that such earthworks are no longer made with the regularity of external form which prevailed in the past ; and that experience has shown that these works may be so masked as not to attract the attention of the enemy, the outward slopes being well covered with branches, clods of earth, etc., so as to render the general aspect of the shelter that of the surrounding ground.

“ As regards the second objection, it is true that pieces thus sheltered have a less interval between them than they have in the open field—yet this may be sufficient for the most essential manœuvres ; and with regard to presenting a compact target, except in rare cases, shelter need not be constructed for an entire battery, but preferably for sections of only two pieces, or for each piece.

“ Concerning the third objection, it may be stated that, at the present day, it is no longer as it was formerly, when, upon manœuvres generally, greater reliance was placed than upon the accuracy of fire. The adoption of the 9 cm. cannon, and the tendency to increase the proportion of guns of this calibre, prove this assertion ; so that a greater and greater precision of fire—even at very considerable distances—exempts us from the necessity of changing position often, it being, on the contrary, more

¹ Translated for the JOURNAL by Lieutenant LUIGI LOMIA, Fifth Artillery.

necessary, after occupying a place, to hold it for the longest possible time. In offensive battles, artillery would, with great difficulty, be placed behind shelter; it may, however, be thus placed, whenever it finds itself in positions which it can hold during the night, and from which, on the succeeding morning, it can sally forth to retake the offensive.

" From what precedes, it follows that a shelter for field artillery should satisfy the following conditions :

" 1st. It should mask completely the pieces and cannoneers, offering to an enemy the least possible target.

" 2d. It should not interfere with the easy manœuvres of the pieces behind these shelters, permitting the battery commanders to remove them from the positions, whether for an advance or retrograde movement.

" 3d. It should present simplicity in the trace, as well as facility and celerity of construction."

"Activity in Artillery Reorganization Throughout Europe."

From these numbers we gather also that nearly all the governments of Europe are now busying themselves with their artillery. Germany, not satisfied with the forty (40) new batteries recently created, is clamoring for more through the new Inspector-General of Artillery—Lieut-General Voigts Rhetz; and the movement, it is asserted, is most likely to succeed. In Switzerland the Federal Council is proposing new plans for the armament of their heavy artillery.

In Austria, the labors of the commission charged with the study of a new project for the more efficient organization of their field artillery, seem to be completed. Under the peace establishment the batteries will be formed upon a basis of four pieces; the horse batteries, however, to be composed of six pieces. The proposed increase consists in the transformation of the thirteen regiments of artillery now in existence into fourteen brigades of two regiments each, thus more than doubling at one stroke their artillery. Each of the brigades is to furnish all the artillery to each Army Corps, forming an integral part of the corps at all times. In France, the Minister of War has presented to the French Chambers a project of law, having for its object the increase and reorganization of the artillery. Under this proposed new system, each battery is to consist of a captain commanding, a 2d captain, and one 1st and one 2d lieutenants; ten sergeants, eight corporals, five artificers, four workmen, two trumpeters, and one hundred soldiers,—or a total strength of 133 commissioned and enlisted.

In Spain, also, we see that the artillery and engineers are being greatly increased. This new organization has an increase of three battalions of foot-batteries and a regiment of siege artillery, and still another regiment of field artillery will be formed between "83" and "84," to all of which are to be added six regiments of reserve artillery. The engineers will likewise receive substantial increase.

In Italy, the War Minister, in view of the action taken by other European powers, with reference to their artillery, has under consideration plans looking to an increased efficiency in this branch of the service.

" *A Comparative Study between Electric- and Gas-light*," by Captain Pescetto, and an article on " *The Premature Explosion of Projectiles furnished with Percussion Fuses*," by Captain Allason, are full of interest, but would require more space to properly refer to them than can perhaps be spared. Articles, also, upon " *Indirect Fire*," upon " *The Royal Foundry in Genoa*," and upon " *The Machines and Apparatus Especially Adapted to the Applications of Electro-magnetism in Military Establishments and Operations*," will greatly repay the reader.

Steam Locomotion upon Ordinary Roads. In Italy this has received a satisfactory solution as regards a low rate of speed; for a greater speed, however, and within the very reasonable limits of ten (10) kilometres per hour, no good results have as yet been obtained. The employment of traction by steam, it is thought, will become an important factor with future armies in the field,—especially in countries where horses are not plentiful.

Magazine Guns. European governments generally, it appears, are not as favorably impressed with the magazine gun as it may have been supposed, though there is no lack of experiments and trials everywhere as regards them. It is generally agreed that the adoption of a repeating arm for the whole army implies several and very grave inconveniences. The instruction would become more difficult and complicated; and the great consumption of ammunition, the furnishing of which, upon the field of battle, is a sufficiently difficult matter at present, would become much more so with the introduction of a gun that fires more rapidly. It would necessitate the transporting of a

greater number of cartridges, while the soldier would be more heavily laden, all of which would have the effect of rendering the movements more slow, offering to an enemy armed with a lighter weapon occasion to derive therefrom considerable tactical advantages. The Swedish Commission, in fact, in its conclusions with regard to the employment of repeating arms, says: "In order to maintain intact the magazines until the decisive moment would require a most severe discipline; hence, because of this difficulty, the magazines may be found empty at the critical moment, and even under the most favorable circumstances the commands of the officer to open with them at the necessary moment may not be heard, owing to the great din of the action at such a time."

Bingaline. Experiments at Geneva with this new explosive compound, due to M. Médail, gave satisfactory results—especially with regard to the safety of its transportation upon railways as compared with ordinary powder. From a number of experiments it was concluded, that while it can not be asserted that Bingaline will bear transportation upon railways with less danger than ordinary powder, it yet can not be regarded as more dangerous. This compound is said to be from seven to ten times more destructive in its effects than ordinary powders; and, while it is not so easily damaged by water, makes but little smoke, and emits scarcely any odor when burning.

Ballistics. Captain Braccialini Scipione, of the Italian Artillery, has, through great labor, brought to a greater degree of perfection, a system of tables by which most rapid calculations may be made with regard to all proposed problems of fire. He has fully worked out five tables, while three others may be derived from them. They are employed in the solution of any problem in which three out of seven quantities are given; the quantities are the time, ballistic co-efficient, initial velocity, remaining velocity, angle of projection, angle of fall and range. The solution of these problems is more rigorously effected than by the methods and tables prepared by Captain Siacci. Such well-known problems as the following, for example: What is the angle of projection to be employed by which a projectile, whose ballistic co-efficient is C, thrown with a velocity V, may pass through a given point? or, With what velocity must a projectile be fired in order that, at the distance X, it may have the velocity V? are at once solved by reference to these tables. In fact, whether we consider the work of Captains Siacci or Scipione, such familiarity with the science of ballistics and the higher mathematics is shown as to do them great credit and honor.

Journal Royal United Service Institution (London), No. cxx, contains two papers of especial interest to our Army. "*The Protection of our Naval Base in the North Pacific,*" is the title of one of these articles, read before the Royal United Service Institution, by Gen. Laurie, late Deputy Adjutant-General of Militia in Canada. In the "discussion," Mr. Bryce, M.P., said: "The question of what would happen in case of war with the United States is fortunately a question which may be regarded as purely theoretical, because any Englishman who travels in the United States feels as certain as one can be of any thing in the future that hostilities between that country and ourselves are practically impossible; of course, there are other powers in the Pacific of which one can not say so much."

Sir Alex. Galt, said: "If you lose the command of the Pacific Railway, the supply for your defensive operations on the Pacific coast is almost entirely gone. * * I may just say one word with regard to the possibility of having to consider war with the United States. I quite agree with Prof. Bryce, in saying that the matter is one beyond all probability of risk. But this may be said, that if we should, by any misfortune, get into a war with the United States, it is not in British Columbia that the attack is going to be made. What we have really to look at in this question is the defence of the naval power of England in the Northern Pacific Ocean. In Canada we are doing our very best, and will continue to do our best, to support the efforts of England to maintain the integrity of the Empire. * * I believe the interests of Canada are greatly promoted by her connection with this country, and instead of a desire to assume the feeble position, we should necessarily be in as an independent country at the mercy of the United States and every other great Power, I think it is much better for us to remain part of the Empire of Great Britain."

Gen. Laurie: * * * "If we were at war with the United States, they have the power to come out from Puget Sound forts and attack our naval base. If we were not at war with the United States, it is most probable that they would simply be neutrals, and their ports would afford harbors in which an enemy's vessel could lie in neutral waters, and whilst our vessels were out holding the so-called key of the position, Esquimalt would be at the mercy of that vessel. It is for that reason I want to put the

dockyard where it would be safe, where it can be guarded by such forces as we are likely to be able to furnish to protect it. There is no doubt that, in time of war, if the United States were neutral, we should have trouble. * * I hope we shall have no fight there, but I cannot help thinking that the Pacific will, more than probably, be the scene of the next great naval contest."

Captain Bedford Pim, R. N.: "I hold in my hand a letter written to me so long ago as the year 1866, from the famous Commodore Maury, and he says if the line to China is continued on the great circle from San Francisco and back to Vancouver, you would take the winds with you both ways and make extraordinarily rapid passages. Under those circumstances, no doubt, our communication with India and China will go by way of America instead of the Suez Canal. * * I think it was in February, 1877, that I brought a question before the House of Commons, with regard to eleven Russian vessels which were then lying in San Francisco harbor, evidently sent there, not for the purpose of attacking Turkish merchant-ships or men-of-war, but to be ready, in the event of war being declared with us, to cut off our food supply. * * From San Francisco, last year, upward of a million tons, not quarters, of grain came to this country. With light and active cruisers nothing could be easier than to cut off that supply. * * Our iron-clads, to my mind, are not worth much, and as to any cruiser that can convoy a number of merchant-ships round Cape Horn, I do not know of one on the 'Navy List' at the present moment."

Gen. Laurie: "Mr. Williamson thinks we could not hold Burrard's Inlet against the United States. Of course, that raises the larger question which Sir Alex. Galt has put in another shape—whether we could hold Canada at all against the United States. Some of us think we could; at any rate, Canada has made up its mind to try, and the people most interested in the matter, the Canadians, have determined to throw in their lot with England. * * Sir Edward Selby Smyth, who formerly commanded the militia in Canada, and who visited this province, strongly recommended that a nucleus of regular troops, in the shape of a small body of marines, should be maintained at the naval station wherever it may be; but a small body of marines at Esquimalt would be simply placed there to be gobbled up by the first cruiser that came along. But placed at Burrard's Inlet, they have a much better chance of holding their own."

"*Suggestions on the Transport of the Future*" is the title of a lecture by Lieut.-Col. Webber, R. E., from which we make a brief extract. The paper is illustrated by detailed drawings and complete official description of the United States Army Wagon, which the lecturer calls "the champion war wagon of the world."

He continues: "The experience gained in the American War of Secession commends itself as also giving practical instruction, all tending to clear the atmosphere of discussion on this subject of organization. The races engaged, the variety of country and climate, the rapid expansion from the most meagre peace footing, are circumstances very analogous to those in which we exist. Any student of the history of those wars will concede that all the organization was essentially practical. The experience produced shows a steady improvement in results, until at the end of the war, the Transport Service may be said to have almost reached perfection. * * I submit that the chief proposals contained in this paper are moderate. They amount to the complete separation in time of peace, of Supply, and what is now called Army Transport, and the organization of the latter on a purely military footing, from which every condition which implies what is called non-combatant shall be expunged; the establishment of a school, not only of *instruction*, but of examination, in the subject of Army Transport connected with the peace cadres; the most rapid transfer to the Reserve of Drivers of any man who has been trained and served sufficiently long to take his full share in the training of others; the adoption of wagons on the principles of construction followed in the American buck and army wagons; the distinction between Army Transport in peace and war, and what may be called line-of-communication or General Transport; and the establishment of what may be called a Transport Intelligence Office, whose duty will be to be able, at a day's notice, to guide the authorities straight to all the sources of supply of animals, drivers, and wagons in the world."

In the discussion of the subject, Major-Gen. Bray expressed his astonishment that 250 years after the organization of the British Army it became necessary for a field-officer to lecture on the necessity of having a proper transport for that Army. He advocated regimental transport under a general army transport system.

Gen. Laurie spoke in terms of admiration of the American wagon and method of driving from the near-wheel horse, and gave results of his recent experience in British Columbia.

Gen. Bray said that in the Afghan War there were nothing but camels (50,000) used, because there were no carts in the country. "The carts from India would not travel over that country: they would have been smashed to pieces; there are no roads at all; they are all boulders."

Col. Webber said, that "if two or three American wagons were brought over to this country and used over rough ground, and driven with full loads as they are done in America, my admiration of them would be fully borne out. * * After hundreds of the South African ox-wagons had been in use (in the South African War), the authorities sent to America for wagons and mules, for what proved to be our most efficient train."

The Chairman—Lieut.-General Sir Arthur J. Herbert, K. C. B., Quartermaster-General, in conclusion said, among other things, that "we must adopt the cheapest plan, for we have not got money to try experiments in different kinds of transport. I have been in America for many years, I have travelled over all sorts of roads in those wagons which Col. Webber and Gen. Laurie have mentioned, and my experience is that they never break down; they are the best wagons in the world for rough roads."

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The Secret Service of the Confederate States in Europe; or How the Confederate Cruisers Were Equipped. By J. D. Bulloch, Naval Representative of the C. S. in Europe during the Civil War. 2 Vols. (New York.) G. P. Putnam's Sons. 1884.

Last Days of the Rebellion. The Second New York Cavalry (Harris' Light) at Appomattox Station, and Appomattox Court-House, April 8-9, 1865. By A. M. Randol, Major 1st U. S. Art. (late Col. ad N. Y. Cav., Bvt. Brig.-Gen. U. S. V.). (Presidio of San Francisco.)

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CORRESPONDENCE.

ARTILLERY PROMOTION.

I.

FORT OMAHA, NEB.,

May 19, 1883.

SIR:

The outlook for promotion in the Artillery branch of the Service is so extremely discouraging, that these facts are respectfully submitted to you for your kind consideration.

At present, as you undoubtedly know, the rate of promotion in the Artillery is extremely slow, barely one file a year, and it must continue so to be for many years to come, owing to the fact that more than one third of the officers now in the Artillery below the rank of field-officer, are comparatively young, having first entered either the regular or volunteer service from 1861 to 1864. These officers did not exceed, it is believed, an average age of 23 on entering the Service, which would make them now of an average age of forty-five, and before they reached the retiring limit (sixty-four years of age), they would have nineteen years more to serve. Hence, little or no promotion for the next twenty years, very nearly, can be expected, unless a war should intervene; since such is the number of the "'61 to '64" men (all of nearly the same age) as to fill all positions, with rare exceptions, from colonel down to a first lieutenant during this period, and this even after every Artillery officer commissioned before the war shall have been placed upon the Retired List. Again, lest there might be any misunderstanding, I will reiterate that, in the limits "'61 to '64," are included all those officers who were put in the Artillery after the war, and before the West Point Class of 1867 came in, but who had served in the volunteer forces between "'61 and '64" (see Army Register). From calculations based upon the rate of promotion in the Artillery since 1861, and more especially during a period of ten years just past, we have approximately the following results:

Officers who entered in 1861 became captains, on an average, in 1871, after 10 years' service.									
"	"	"	1864	"	"	"	"	1883,	" 19 "
"	"	"	1867	may become	"	"	"	1895,	" 28 "
"	"	"	1870	"	"	"	"	1902,	" 32 "

To show that this is founded upon facts, I beg respectfully to instance my own case, which is a favorable one, standing, as I do, at the head of eight officers assigned to the 5th Artillery in June, 1867. I will have been sixteen years in the Service this next June 17, 1883, and now stand ninth upon the list of first lieutenants, precisely where Captain Samuel M. Mills, 5th Artillery, promoted to a captaincy a month ago, stood in 1873; therefore, at the same rate, it would take me ten years more, or twenty-six years in all, to become a captain, while it would take at least thirty years for the last "'67" appointment to reach that grade, or an average of twenty-eight years' ser-

vice as lieutenants for the " '67" men to become captains. Again, not to take other cases, considering those of Lieutenant Cobb, 2d Artillery, and Homer, 5th Artillery, both of the Class of 1870, it is found that both these officers stand 22d and 21st respectively upon their regimental lists of first lieutenants now (1883), which is lower than I stood in 1873; hence, it would take these officers a period of about nineteen more years (at the expiration of which the retirement of " '61 to '64" officers would begin) before they could become captains, and as these gentlemen will have already been thirteen years in the Service next month, they would have to spend thirty-two years of their lives as lieutenants before reaching the rank of captain.

To recapitulate, we see that a captaincy in the Artillery, which was obtainable in about sixteen years before the war, was *increased* to an average of nineteen years for the " '64" men, to an average prospectively of twenty-eight years for the " '67" men, to an average of thirty-two years for the " '70" men, and in proportion for other dates not mentioned between " '61 and " '70."

As regards those who entered, or who will enter the Artillery after 1870, the time for a captaincy will diminish very rapidly at first as compared with the " '70" men, but it is only with those that will enter the Artillery in about the year 1891, or thirty years after the war, that promotion would become again as it was before it, thus:

Officers who entered the Artillery in 1873, may become captains in 1901, after 28 years' service.										
"	"	"	"	"	"	"	"	"	"	"
"	"	"	"	"	"	"	"	"	"	"
"	"	"	"	"	"	"	"	"	"	"
"	"	"	"	"	"	"	"	"	"	"
will enter	"	"	"	"	"	"	"	"	"	"
"	"	"	"	"	"	"	"	"	"	"
"	"	"	"	"	"	"	"	"	"	"
"	"	"	"	"	"	"	"	"	"	"

And thus it will appear that, while it will take twenty-two years more for the " '70" man to become a captain than it took the " '61" man, that the " '79" man, owing to the wholesale retirements of the " '61 and '62" men, principally, will be but one year behind the " '70" man as regards the getting of this captaincy, the difference in the times of entering the Service being in both cases the same—namely, nine years. In other words, the greatest disproportion imaginable is seen to exist in this matter of promotion in the past, and prospectively in the Artillery branch of the Service, which becomes the more glaring when it is remembered that in the Medical Corps, officers are made captains after five years of service, and that in the Engineer and Ordnance Corps, lieutenants are promoted to this rank after serving fourteen years as lieutenants.

The remedy that I would most respectfully and most earnestly ask in the name of all the lieutenants of Artillery, whose prospects of promotion are, indeed, so meagre, is, that a law might be enacted creating the rank of 2d captain of Artillery, and promoting to it the ranking twelve first lieutenants in each Artillery regiment. This rank to carry with it the pay, emoluments, and privileges of a captain.

But if Congress does not deem it expedient to enact what appears to be so just a measure, then I further most respectfully pray that a law might be framed authorizing the retirement of first lieutenants of Artillery from the Army on their own application, granting such applicants a full year's pay and allowances for every period of, say, four years that they have rendered as commissioned officers, but in no case to exceed four years' pay altogether.

This, I firmly believe, in case the former were not favorably considered, would cause a number of Artillery lieutenants to withdraw of their own free will, thus giving impetus to promotion.

Pardon me, indeed, for so lengthy a communication, but I feared I could not make

it plainer in less space, and with hope most earnest, that this prayer may recommend itself on its own merits to the wisdom and love of justice of Congress,

I remain, very respectfully, your obedient servant,

LUIGI LOMIA,
1st Lieut. 5th Artillery.

N. B.—In the Infantry, for the same general causes, promotion is found to be just as slow in proportion, if not slower, than in the Artillery; but, owing to the fact that there are but twelve first lieutenants in each Infantry regiment, instead of twenty-six as in the regiments of Artillery, a captaincy is obtained, of course, in much less actual time.

The retirements in the Artillery, by reason of age, during the next ten (10) years, are found to be only ten (10) field-officers and two (2) captains, and, taking into account also two (2) first lieutenants to be retired, we have a total of fourteen (14) officers in all, which does not, from this cause, give an average of three (3) files, in each regiment, of promotion to the lowest lieutenant on the list for the above-mentioned period.

Attention is respectfully called to the within-enclosed letter from General Hunt, of the Artillery (marked "A"), in reply to a note of mine, asking him for his approval of the facts as stated in the above communication. LUIGI LOMIA,

To SENATOR —————

1st Lieut. 5th Artillery.

II.

NEWPORT BARRACKS,
June 6, 1883.

MY DEAR MR. LOMIA :

I received your note of 19th May and its enclosure, which I read carefully and approve. I have not verified the calculations you have made, but do not doubt that they are correct. When the Army was reorganized in 1866, I foresaw the evil of which, with so much justice, you complain. The manner in which the reduction of twenty regiments of Infantry was effected in 1870 greatly aggravated the evil to the Artillery. That arm was the only one that was *not* increased in 1866, and therefore received no substantial benefit from the large augmentation of the Army. Its officers were thus put at great disadvantage, when compared with the other arms. Yet when the reduction of the Infantry was effected in 1870, the heaviest portion of the blow fell upon the Artillery. Its oldest officers were retired, and instead of the consequent promotion, which belongs by right to that arm, being given to its officers, the Artillery vacancies were filled by *transfer of comparatively young men from the Infantry into the Artillery*, placing them over their seniors in service and years—thus still further aggravating the evils under which the Artillery has always suffered, and which was due to the peculiarities of Artillery organization. This peculiar organization arises from the necessity of furnishing in time of peace four, in time of war five, officers to each battery, whilst company of Infantry or troop of Cavalry require but three, both in peace and war. That is, each company of Infantry or troop of Cavalry has one captain and two lieutenants, each battery of Artillery has one captain and three or four lieutenants. In the French and British Artillery, as was the case in ours during the War of the Revolution, this evil is remedied by having two captains, a first and second, and two or three lieutenants for each battery. This organization should be again given to our Artillery, especially as the battery is the equivalent of a battalion of Infantry commanded by a major, or squadron of Cavalry, which has *two* captains. There are twelve batteries in a regiment of Artillery, whilst there are but ten companies in the

Infantry. Thus, with the regimental adjutant and quartermaster included, a regiment of Infantry has ten captains, twelve first lieutenants, and ten second lieutenants, whilst a regiment of Artillery has twelve captains, twenty-six first lieutenants, and thirteen second lieutenants (twenty-four in war). This fact alone shows the great disadvantage of the Artillery in the way of promotion, to say nothing of pay; Artillery and Infantry-pay, *grade for grade*, being the same.

The evil is aggravated by the fact that the Artillery generally serves as *Infantry*. It has lost whilst so serving its full proportion by disease and battle, as the records of the Florida, Mexican, and frontier wars show, and worse than this, when so serving with the Infantry, and as Infantry, its officers are outranked and commanded by their juniors in service, owing to the slower promotion due to their special organization.

In 1853 I made a thorough study of the question of promotion in our Army, which the publication of "Cullum's Biographical Dictionary" enabled me to do and to arrive at exact results. I found that from the records of all the graduates of the Military Academy from 1801 to 1821, who spent their *whole* lives in the Army, that the average of their service after graduation was twenty-six years and some two or three months, whilst the average time required for promotion to the grade of major was twenty-six years nine or ten months, showing that in any given case, an officer who enters at the bottom of the list cannot expect to attain the rank of major. The highest probable grade he can attain is that of captain. I found also that whilst all the majors but two, and most of the lieutenant-colonels of Infantry, then on the Army list, had entered the Army since the organization in 1821, but *one* such Artillery field-officer (the junior major) had entered since that time. This one fact shows at what great disadvantage, in the way of promotion and command, the special organization of the Artillery places its officers. It was felt severely in Mexico, where the commands of divisions and brigades fell to Infantry and Cavalry field-officers, but not one to an Artillery officer, although their regiments were serving as Infantry and brigaded with Infantry regiments.

As to pay, since officers of the same grade receive the same pay, the larger proportionate number of officers of the lower grades in the Artillery makes the *average* pay of Artillery company officers nearly \$100 per annum less than that of Infantry officers. I think a proper remedy for this evil, although not an adequate one in all respects, would be to give to the Artillery its ancient organization, of two captains, a first and second captain, and two (three in war) lieutenants. This could be done by making the second captains *juniors* of that grade in *their regiments*, but to rank, date for date, with captains outside their regiments, with the pay of \$1,700 if not mounted, \$1,900 mounted, *i. e.*, \$100 less than captains who are battery commanders. This would nearly equalize the average pay of Artillery with that of Infantry officers (only \$30 per annum difference). P. S. This would cost, per regiment, only \$2,400 per annum. If this additional expense is objected to, I would suggest that the two additional lieutenants allowed each regiment of Artillery as quartermaster and adjutant, be discontinued as those positions become vacated by casualties, and that the Artillery regimental adjutants and quartermasters be taken thereafter from the second captains of the regiments. One half of these staff-officers would at once become second captains and the remainder would soon be promoted to that grade. There would then be a prompt reduction of expense in each regiment of \$600 per annum. This increase of pay to twelve second captains at \$200 — \$2,400. Reduction of pay by two first lieutenants at \$1,500 — \$3,000. The change of organization would therefore entail no expense to the Army. This mode of extending relief is better than any heretofore proposed. It costs nothing. The compulsory retirement law fails to meet the case. It gives no present relief where most wanted, yet adds largely to the appropriations.

When it does begin to operate *effectually*, it will overload the retired list, perhaps break it down. It will bring a large number of young officers into service at the same time, and so in turn bring on another "choke" in promotion. Hence any action to increase this list necessarily tends to make further trouble and cause greater expense.

Respectfully and truly yours,

HENRY J. HUNT,
Brevet Major-General, Colonel Fifth Artillery.

MINA AND HIS THREE HUNDRED.

I.

WASHINGTON, D. C.,

June 30, 1883.

MAJOR-GENERAL WINFIELD S. HANCOCK,
President U. S. Military Service Association.

SIR :

I beg to acknowledge the receipt of the letter you addressed, on the 28th inst., to the Mexican Minister, Mr. Matias Romero (at present in Europe on a leave of absence), kindly forwarding a copy of Nos. 9, 10, and 12 of the JOURNAL OF THE UNITED STATES MILITARY SERVICE ASSOCIATION, over which you so worthily preside, containing an article of Captain Reuben M. Potter, U. S. Army, entitled "Mina and His Three Hundred," which article you are good enough to send, thinking that it might prove an interesting contribution to Mexican history. I have also received the copy you are pleased to enclose of the communication of the U. S. Minister Resident at Brussels, and that of the Mexican Minister at the same place, bearing on this subject.

Having read Captain Potter's article and found it to be an interesting and impartial account of that important episode of our War of Independence, I have thought proper to forward it to my Government by the next steamer, knowing that in no place will it be so duly appreciated as in Mexico.

Thanking you, in Mr. Romero's name, for your kindness in this matter, I remain very respectfully yours,

CAYETANO ROMERO,
Charge d' Affaires ad interim of Mexico.

II.

MEXICO, *August 13, 1883.*

SEÑOR WINFIELD S. HANCOCK,
Governor's Island, N. Y. H.

ESTEEMED FRIEND AND SEÑOR :

With your welcome letter of June 20th, ultimo, which up to this time has been in my possession, I received copies of the JOURNAL OF THE MILITARY INSTITUTION OF THE UNITED STATES—in which work occurs an article entitled "Mina and His Three Hundred," written by the distinguished Captain Reuben M. Potter.

The narrative is perfectly exact, as are also the details with which the aforesaid gentleman relates it.

I am very grateful for such distinguished consideration, both on the part of Mr. Potter and your Honor, in sending me, so courteously, a present of such just value, and which I will preserve in a preferred place of my private library.

I am with all affection, attached and eminent friend,

Your servant,

PORFIRIO DIAZ.

OUR CAMP CHEST.

CHARLES XI., of Sweden, unlike his crack-brained hero of a son, was a thrifty king, who knew how to make a rix-dollar go as far as any one, and how to make both ends of the month, as well as of the year, meet. Hence, he occasionally stole a little time from punctuality, and made a month of credit go as far as six weeks. A contractor who had furnished him with a large amount of supplies, for which payment had been deferred beyond the time due, one day called on the king to urge immediate payment. He was still put off, and at length, in his importunity, became disrespectful. At this, Charles, who was testy as well as stingy, seized the tongs, and, belaboring the contractor, drove him from the apartment. As the disappointed dunner was descending the staircase, he met another hungry creditor going up. "What luck?" said the second-comer to the first; "has the king paid you?" "Yes," said the other, "after a fashion of his own." "What did he pay you in?" was the next inquiry. "In bar iron," was the reply. "Did he allow enough iron to the dollar?" asked Number Two. "More than I demanded," said Number One. "Good," said the new-comer; "iron can be at once converted, and I will grab at the same luck while he is in the humor;" and up he went, without waiting for further explanation. He was soon admitted to the king's presence and addressed him with an air as respectful as it was cheerful: "I met Mr. So-and-so, on the stairs," he said, "and was glad to learn from him how your Majesty had paid his account, for I will be happy to take payment of mine in the same commodity. "The devil you will!" said the king; "what did he say I had paid him in?" "In bar iron," replied the subject. Charles relished a good joke as much as he hated opposition to his will; and the unwitting farce of the two contractors threw him into a violent fit of laughter, which left him in the best possible humor. He at once sent for the first contractor, and paid them both in coin. "Now," said Charles to the man he had maltreated, "your bar iron is converted into gold, and I hope you are content." "True," said the subject, "but it is a rough kind of alchemy, which I do not wish to experiment in again." P.

AN HOSPITABLE HOST had among his frequent guests a romancer who was usually quite entertaining, if not called on too late in the feast; for, with the progress of talk and tokay, he was liable to become more romantic than rational. One evening, after this gentleman had given two narratives with very good effect, and it was time for something new, the host called on another guest for a song, but first whispered to the singer as follows: "I wish to relieve Mr. Reelyarn from a third effort. He is always good at the first two, but is sure to grow dizzy when he reaches his *third story*." P.

A GEM may be made uncouth by a bad setting, and a thought, uttered in different phraseologies, may tell quite oppositely. Every reader is familiar with Byron's famous simile, in which he likens a tropical sunset to a dying dolphin, whose colors change through diverse tints of beauty, and then fade into death, when "all is grey." Yet, it has been remarked that this idea is in substance identical with one found in Hudibras:

" Now, like a lobster boiled the morn
From black to red began to turn."

Ill-chosen words may give an opposite setting to fact as well as sentiment. Daniel Webster's last three monosyllables,

"I still live,"

though of simplest meaning, strike us seriously; and we at once seek for them some metaphorical significance; but it is well that their exact shape has been preserved. A Western Hoosier, who lived where spelling-books and newspapers did not abound, once, when in a sentimental mood, observed: "Every great man is sure to say something remarkable when he is dying. There was that great Down Easter—General Webster; how solemn his last words were."

"What did he say?" inquired a bystander.

"He said," replied the Hoosier, "'I aint dead yet.'"

Webster's actual last words, when first reported, were considered suitable for his epitaph, or for the motto of his works; but the Hoosier's version of them, though identical in sense, would hardly be accepted by any one for his own tombstone or title-page. Moral: Don't let your words spoil your thoughts. P.

ANTE BELLUM.—We found ourselves (March, 1861) but a short distance from San Antonio, Texas, where we were met by an orderly with a message from Colonel Waite (who had by this time relieved General Twiggs of the command of the department), that, as there was some excitement among the citizens of that place, it would be well if the command were marched around the city. Why the citizens should be excited, we could not at that time imagine, as we had full assurance of their good-will from their representatives. However, the old regiment was not in the habit of sneaking around by the by-ways when the main road was open, and Major Sheppard called a council of the officers, the matter was laid before it, and without a dissenting voice it was determined that the trunks and boxes should be opened, and full-dress uniform gotten out and put on, band instruments unpacked, and the regimental flags removed from their cases, and that we should march through San Antonio with every thing that we possessed flying, blowing, and beating; so that for a while every thing was in confusion, and the leeward side of every wagon in the train became an extemporized dressing-room. * * * I rode to the outskirts of the city in the direction from which our people were to come, and met them just as they entered, colors flying, band playing, drum-major nearly turning himself inside out with his *baton*, and every man and officer as fine as brass and bullion could make him; and now occurred an incident that I can never forget.

An old, bare-headed, gray-haired gentleman, whose name I afterward found to be Bell, a jeweller of San Antonio, also met the column. He was wrapped from head to foot in an American flag as a mantle, and stood in the middle of the road waiting. As soon as the drum-major was within a few feet of him, he faced about, took up the step, and with his head high in the air, his old eyes flashing, he marched through the town and past its last houses in the suburbs, and then fell out, and was cheered to the echo as the column passed him. I was afterward told that he lived in San Antonio, and was loyal throughout the whole war.—*Major Bell on the Evacuation of Texas by the 3d Infantry.*

A STITCH IN TIME.—Some, but not all, of the immediate staff serving under Twiggs were staunch in their loyalty to the Union, and they did what they could under the adverse circumstances which enveloped them. Among them was one of the best of men, Major William A. Nichols, Assistant Adjutant-General. As chief of the staff, he could do much by foreseeing and providing for emergencies before they occurred. It was through his contrivance that a valuable battery of artillery escaped from the State and was saved to the Government.

In a note to me, dated March 7, 1861, Major Nichols says: "I send you a spool of cotton to show what *shifts* we were put to. It contains an order to French (William H. French, who commanded the battery) to 'cuidar' (take care) for his guns—find it." The spool of cotton presented exactly the appearance of any ordinary one; but on removing the label pasted over the end and concealing the hole which passes through the centre of the spool, I discovered a small roll of thin paper, on which was written the following order:

"HEAD-QUARTERS DEPARTMENT OF TEXAS,

"SAN ANTONIO, February 10, 1861.

"THE COMMANDING OFFICER, FORT DUNCAN.

"SIR:—Move instantly with the artillery companies upon Brazos Santiago; take your arms, guns, and necessary equipments and camp equipage; leave your horses on embarkation. The formal orders have been intercepted. Texas will demand the guns of the batteries. A steamer will be ready to take you by sea."

Not only were the movements of the Army closely watched by the Texans, but some of Twiggs' staff took service against the Government, and did all in their power to wrest every thing of value from the loyal officer and convey it to the Texan authorities. In order to evade such vigilance, the wife of Major Nichols managed to send the spool containing the order to the wife of the British Consul at Eagle Pass, inclosing it in a letter in which she asked that it be conveyed to Major French. This lady dispatched it by a Mexican boy, who safely delivered it, and French's sagacity guided him to its real object. He skilfully eluded the beleaguerers and saved all his guns.—*Gen. Townsend in "Anecdotes of the Civil War."*

SWARING LIKE A TROOPER.—When I first joined my regiment,¹—the famous "buff-sticks,"—then stationed at Washington, the great operations of the War of the Rebellion had scarcely commenced. Only five of the companies were together, the remainder having been captured in Texas, and the members thereof afterward paroled. Tempting offers of commissions were made by the Confederates to a large number of the non-commissioned officers and privates of the regiment, but to their credit be it stated, *not one* of them accepted, and when they joined the battalion in the spring of '62, *all* were reported "present or accounted for." This, however, by the way: the battalion was quartered in the heart of the city, and guard-mount, dress parade, etc., attracted great attention, and crowds of people, among which the colored population (especially the juvenile portion) was largely conspicuous. D—, our adjutant, a whole-souled, genial gentleman, happy in being able to conduct the "ceremonies" of such a force,—he probably had never seen so many "regulars" together,—was in his element. He used, I remember, to wear a single eye-glass; in fact, we called him "the bully boy with the glass eye." The glass ordinarily dangled from his neck, but he had a habit of raising it at intervals just before giving a command. At guard-mount one morning, where the African persuasion appeared as usual in force, and just after the guard had been presented to the new officer of the day, D— raised his glass at the appropriate moment, squinted at the line of men, dropped it, and gave the command "by guard right wheel"; at which a sable imp, deeply interested in the proceedings, cut a "pigeon wing," and exclaimed in stentorian tones: "De gemman done cuss de sogers; he tole 'em, 'by G—d, right wheel!'" D. P.

"THE OLD COLONEL."²—It is better to dress him up in an old red coat, and strap him on to an old sword with a brass scabbard, that he may stand up on high ceremonials and drink the health of the good Queen, for whom he has lived bravely through sunshine and stormy weather, in defiance of epidemics, retiring schemes, and the Army Medical Department. It is good to ask him to place his old knees under your hospitable board, and to fill him with wholesome wine, while he decants the mellow stories of an Anglo-India that is speedily dissolving from view.

"The old Colonel has no harm in him. His scandal blows upon the grandmothers of people that have passed away; and his little improprieties are such as might illustrate a sermon of the present day.

"But you must never speak to him as if his sun were setting. He is as hopeful as a two-year-old. Every *Gazette* thrills him with vague expectations and alarms. If he found himself in orders for a brigade, he would be less surprised than any one in the army. He never ceases to hope that something may turn up, that something tangible may issue from the circumambient world of conjecture. But nothing will ever turn up for our poor old Colonel, till his poor old toes turn up to the daisies. This change only, which we harshly call 'death,' will steal over his prospects; this new slide only will be slipped into the magic lantern of his existence, accompanied by funeral drums and slow marching.

¹ Third Infantry.

² From "Old East Indian Types," by Mr. Aberigh-Mackay.

" Soon we shall hardly be able to decipher his name and age on the crumbling gravestone among the weeds of our horrible station-cemetery. But what matters it ?

' For his bones are dust,
And his sword is rust,
And his soul is with the saints, we trust.' "

EPIGRAPH ON A VETERAN SWORDSMAN AND MASTER OF FENCE.

Old Cut and Thrust, as we all must,
Has closed his earthly day;
His thread is cut, his soul we trust
Has not been thrust away.

Oh ! never doubt he was devout,
And did the saints revere ;
The only saint he ever cut
Was *Saint George in the rear.*¹

A rival to that saint, men thought,
He was, or would be soon ;
Saint George had but one *dragon* fought,
He more than one *dragoon*.

No preacher, bent on argument,
Though perfect in his part,
Gave point with force like his that went
Directly to the heart.

Though nimble with the rapier slim,
And blade that horsemen bore,
More clay of muscle was in him
To wield the broad *claymore*.

No planter of stockade or hedge,
Whatever his pretence,
Could match this man of point and edge
In manly *art of FENCE*.

No knight of Malta's chivalry
Could better cut or pierce ;
No drayman had more skill than he
To handle *cart and tierce*.

Subdued, disarmed by Death's award,
Unspotted by his toil,
In honored rest 't is his reward
To sleep without a *foil*.

R. M. P.

¹ Lest some lay reader should think that disrespect is here meant toward a saint whom soldiers ought to revere as a dragon-killer, I will say that to "cut Saint George in the rear" designates a backward sabre stroke in dragoon exercise.

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